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ORIGINAL ARTICLES.

THE THORACOPLASTIC OPERATION OF ESTLANDER:

MULTIPLE AND EXTENSIVE RESECTION OF THE RIBS
OVER OLD AND INTRACTABLE EMPYEMA CAVI-
TIES, AS A MEANS TO EFFECT THEIR
CLOSURE.

BY CHRISTIAN FENGER, M.D.,
OF CHICAGO, ILL.

In the last twenty years the treatment of empyema has gradually drifted from the repeated aspirations, through the stage of the use of the permanent canula, into the stage of free incision, with excision of a piece of a rib, if necessary, and with thorough drainage, with or without the washing out of the cavity.

The repeated aspiration will possibly retain a permanent place in the treatment of empyemas in children: the permanent canula will never attain its object, namely, to shut out air from the pleural cavity, except when evacuation and washing out is performed. It will, consequently, have to be abandoned in favor of the more effective method of free incision. But it was natural that the two first-named methods should have their trial before the advent of antiseptic surgery, which has enabled us to so disinfect the air entering the pleural cavity through the drainage tube at each inspiration, as to render this air free from noxious germs, and, consequently, harmless.

The antiseptic method, then, is a *conditio sine qua non* for the employment of the method of free incision; it also enables us to treat the cavity on rational modern surgical principles; that is, to have two openings—an anterior and a posterior, and sufficient drainage through these to effect not only the evacuation, but also the thorough washing out, and, if necessary, the disinfection of the cavity.

Dr. A. Homén, in his interesting paper on Estlander's method (Langenbeck's *Archiv für klinische Chirurgie*, Band xxvi., Heft 1., page 151, 1881), has been able to gather statistics of fifty-two cases of empyema treated by free incision, with all antiseptic precautions. Of these, fifty per cent. recovered, thirty-three per cent. died, and in seventeen per cent. permanent fistulæ remained.

Homén's total statistics include one hundred and forty-one cases treated by free incision, but in all of which strict antiseptic precautions had not been observed. As may be expected, the results of the operation are less favorable than in the class of cases just mentioned. Of these, forty-six per cent. recovered, thirty-three per cent. died, and a permanent fistula remained in twenty-one per cent.

As our attention is to be called only to the treatment of permanent pleural fistulæ, we will now look a little closer into the condition of patients so affected, and then into the prospects for their future.

The fistulous opening leads (with the exception or a few cases, in which the sole remnant of the empyema is a carious rib) into a cavity between the thorax and the lung—a cavity with fibrous, connective-tissue walls, covered with a layer of soft pus-secreting granulating tissue, and usually without, but sometimes with, connection with one of the bronchi. It is needless to state that the size of such a cavity, and the amount of purulent matter secreted from its walls, may vary indefinitely; but even a small cavity, with a moderate secretion, is not only a constant inconvenience to the patient, but also a fruitful source of danger to his health and life in the course of time.

The patient usually is pale, weak, and unable to perform the ordinary duties of life. From time to time the fistula may close up, and retention of pus, with subsequent pain, exhaustion, and fever, result. In cases where primary tuberculosis, or cheesy deposits in the lung tissue, do not exist, or are at a standstill, the constant suppuration of the cavity, together with the formation of a deposit of cheesy matter, may be the starting-point for tuberculosis, or, by breaking down the patient's general health, may arouse a latent tuberculosis.

But if tuberculosis be not the main danger in these cases, there is another, just as serious, and perhaps more certain sooner or later to ensue, namely, the amyloid degeneration of the kidney, spleen, and liver. In the majority of fistulæ we are liable to find some day, sooner or later, the patient with oedema around the malleoli, a slight amount of albumen in the urine; sure signs that he is approaching the inevitable fatal termination.

The objection might be made here that a number of cases are met with and on record in which, for a long series of years, a discharging thoracic cavity has been sustained without much impairment of the general health, without the development of tuberculosis or amyloid degeneration. But, this being granted, we must confess that in such cases we never know when the fatal complications will commence, whether in a few months or in a few or many years. Consequently we must regard every permanent empyema cavity as a constant menace to the life of the patient.

In view of these considerations it is not only our prerogative, but also our duty, to try every reasonable means for the obliteration of the cavity.

It is not my intention here to discuss the whole local and general treatment of empyemas, the various fluids injected, and so on. This paper is intended to treat only of those empyema cavities where the rational operation has been performed in time, where antiseptic dressing, accompanied by thorough drainage and washing out with the various disinfectant and alterative fluids, has been used; in short, where all other possible means have been exhausted, but the lung will not expand any more, the

thorax cannot sink in any more, and no injection of fluid causes any formation of connective tissue to fill up the cavity; it is in these cases that we are obliged to employ Estlander's operation.

The only way to close an empyema cavity in this condition is to effect by an operation a more or less complete contact of the walls of the cavity. As it is not in our power to act upon the internal or pulmonary wall of the cavity, or in other words, as we are unable to bring the surfaces of the lung out in contact with the wall of the thorax, nothing is left but to obviate the rigidity of the wall of the thorax by taking away, from the ribs covering the cavity, pieces as large and as many as may be necessary to effect a further sinking in of the thoracic wall, and sufficiently extensive to bring the latter in contact with the surface of the lung.

Before discussing the details of the indications for the operation, the operation itself, and the after-treatment, I will report the following case as an illustration:

CASE. Right-sided pleurisy, resulting in empyema; repeated aspiration; inefficient fistulous opening discharging for a year and a half; dilatation of opening, drainage and washing out; no counter-opening; daily washing out for a year; removal of seven centimetres of the sixth, six centimetres of the fifth, and six centimetres of the fourth rib in the axillary region over a transverse cavity two inches long, an inch and a half high, and about an inch deep; slight fever for six days; small subcutaneous abscess below the scar after eighteen days; drainage-tube of cavity removed in thirty-seven days; cavity and fistula closed in fifty-four days.—Rebecca S., 16 years of age, was admitted to Cook County Hospital, October 11, 1881. Her history was as follows: Her father died of acute consumption at about the age of thirty. Her mother is still living, thirty-four years of age, and enjoys good health. The patient's hygienic surroundings have been relatively good. She had rubeola and whooping-cough in her sixth year, but had no other sickness until two years and nine months before her admission to the hospital, when she had a severe attack of pleurisy on the right side, which kept her in bed for two weeks and terminated in an empyema. Aspiration was employed three or four times by her physician, Dr. Banga, at intervals of about a week, but difficulty was always experienced in drawing off the pus on account of its admixture with fibrinous matter, so that complete evacuation was impossible. One of the openings made by the aspirator needle remained open and discharged a considerable amount of pus daily for a year and a half. During this time, and until a year before her admission to the hospital, she had no medical treatment. At this time her general health began to be much impaired, she lost flesh and appetite, and became weak and anæmic.

On account of this she consulted Dr. E. Andrews, of Chicago, who dilated the already existing opening into the pleural cavity, inserted through this a drainage-tube, and washed out the cavity with carbolic acid solution. The cavity was washed out daily until her admission to the hospital, and in consequence her health improved to some extent.

On admission the patient was found to be small for her age, spare, but not extremely emaciated; she was pale, her appetite poor, and she could not sleep without the use of hypnotics, rather because of her habituation to their use, than on account of any especial pain in the side. The right half of the chest was sunken and flattened; the right shoulder was lower than the left; a slight curvature of the spine in the dorsal region, with concavity to the right, was noticeable, which had resulted, as usual in such cases, from the sinking in of the right wall of the thorax. Two and one-half inches below and half an inch to the right of the nipple, between the sixth and seventh ribs, was a fistulous opening leading upward and backward into the empyema cavity, and into which a probe could be passed five and a half to six inches. The amount of discharge was from one and one-half to two tablespoonfuls daily.

Percussion resonance was clear over the clavicular and in the infraclavicular region, down to about the fourth rib, but dull from this point down to the liver. In the place of the clear percussion, vesicular respiration was somewhat weak, but still could be distinctly heard. On the dorsal side there were clear percussion and vesicular respiration all over the scapula; in the infrascapular region, dull percussion and no respiration sound.

The heart and left lung were normal; temperature and pulse normal; bowels regular; urine light straw-colored, clear, acid, and contained neither albumen nor sugar. There has been no oedematous swelling of the lower extremities at any time.

Daily washing out of the cavity with a two and one-half per cent. solution of carbolic acid was ordered, and a voluminous Lister dressing applied over the fistula. The patient was discharged from the hospital October 15, and ordered to continue the treatment at home.

A month later, November 16, the patient was re-admitted to the hospital. During this time the daily discharge had decreased a little, but amounted still to about a tablespoonful. She has become weaker, her appetite poor, and complained of frequent pain in the right side, and headache. The cavity was now washed out daily with a one-tenth per cent. solution of thymol, Lister dressing applied, and quinia and iron given internally.

During December and January this treatment was continued, but no especial improvement was noticeable notwithstanding the injection of different fluids, such as tincture of iodine, alternating with the solutions of thymol and carbolic acid.

In January she came under my care, and I resolved to try the thoracoplastic operation as a last resort to effect the closure of the cavity and check the supuration. Once more the urine was carefully examined both chemically and by the microscope, and was found not to contain albumen nor casts of any kind.

On January 27, at the surgical clinic in the amphitheatre of Cook County Hospital, in the presence of Dr. W. Meacher, of Portage, Wisconsin, assisted by the hospital staff, I operated in the following manner: The patient having been anæsthe-

tized with ether, was placed on her left side, and the right side of the thorax carefully disinfected with a five per cent. solution of carbolic acid and the nail-brush, the fistulous track was laid open for an inch and a half, when it passed inside the wall of the thorax between the sixth and seventh ribs. The incision was then carried upward and backward, along the outer surface of the sixth rib for about three inches, making the entire incision about five inches in length. By means of a gouge the sixth rib was now denuded of periosteum, and a piece seven centimetres long removed by a bone forceps. In the same manner six centimetres of the fifth rib were removed. After this had been done I was able to introduce the little finger into the empyema cavity, which was found to be two inches long, an inch and a half high, and about an inch deep, extending up behind the fourth rib, the apex being at the third intercostal space. The upper border of the incision could be drawn upward beyond the fourth rib, which I denuded, and then removed a piece six centimetres in length. Having a finger in the cavity and passing the other hand over the covering wall of the thorax, I ascertained that the pulmonary and thoracic walls of the cavity could be brought in contact, and so did not resect the third rib. The walls of the cavity were found to be firm, hard, connective tissue, covered with a layer of flabby granulating tissue. All of the latter was removed by the sharp spoon. The hemorrhage during the operation was trifling, no ligatures were needed, the slight hemorrhage from two of the intercostal arteries being stopped by torsion.

As the upper posterior end of the wound showed a tendency to form a pocket in the loose connective tissue below or anterior to the latissimus dorsi muscle, a buttonhole opening was made through the latter for a drainage-tube, near the angle of the scapula. The wound and the cavity were then thoroughly irrigated with carbolic acid solution, the walls dusted with iodoform, one large drainage-tube inserted into the cavity and another along the entire extent of the wound, from the scapula to the anterior end of the old fistulous tract, the wound united with disinfected silk, and covered externally by a layer of iodoform, over which a voluminous Lister dressing was applied. The carbolic spray was used during the operation which lasted about an hour.

7 P.M. Pulse 136; temperature 99.8°. The patient has vomited a little, but is warm, and, with the exception of the high pulse, presents no evidence of shock.

January 28.—A.M. Pulse 114; temperature 100.6°. Has slept off and on, an hour at a time, from the use of hypodermic injections of morphia. Complains of pain in the side. 7 P.M. Pulse 124; temperature 100°. Complains of pain. Has taken champagne, and a little milk and lime water.

29th.—A.M. Pulse 134; temperature 101°. Has slept for an hour at a time during the night. Complains of thirst and headache. Dressed the wound, which showed slight suppuration, and washed it out with thymol solution. 7 P.M. Pulse 148; temperature 102.5°. Ordered five grains of quinia every four hours, subcutaneous injection of one-fourth

grain of morphia when the pain is severe, and potassium bromide and chloral at bed-time, the latter to be repeated if she wakes during the night.

30th.—A.M. Pulse 130; temperature 101.2°. She has slept well during the night, is somewhat nervous and feels feverish, but her general expression is good. P.M. Pulse 142; temperature 102.6°.

31st.—A.M. Pulse 124; temperature 101.5°. P.M. Pulse 130; temperature 102°.

Feb. 1.—A.M. Pulse 108; temperature 100°. P.M. Pulse 106; temperature 100.2°.

2d.—A.M. Pulse 120; temperature 98.5°. P.M. Pulse 130; temperature 100.2°.

3d.—A.M. Pulse 106; temperature 99.5°. P.M. temperature 101.2°. Wound dressed and stitches removed, discharge moderate. Patient sleeps better, and has some appetite.

4th.—A.M. Pulse 118; temperature 99.7°. P.M. Pulse 120; temperature 101.7°.

5th.—A.M. Pulse 128; temperature 99°. P.M. Pulse 112; temperature 99.5°.

6th.—A.M. Pulse 114; temperature 99°. P.M. Pulse 120; temperature 100.6°.

7th.—A.M. Pulse 110; temperature 99.2°. P.M. Pulse 108; temperature 100°.

8th.—A.M. Pulse 104; temperature 98°. P.M. Pulse 103; temperature 99°.

9th.—A.M. Pulse 120; temperature 99.2°. P.M. Pulse 118; temperature 98°.

10th.—A.M. Pulse 112; temperature 99.8°. P.M. Pulse 122; temperature 100.6°. Outer drainage-tube removed; very little discharge.

11th.—A.M. Pulse 120; temperature 98.5°. P.M. Pulse 108; temperature 99.8°.

12th.—A.M. Pulse 110; temperature 98.7°. P.M. Pulse 124; temperature 99.6°.

13th.—A.M. Pulse 120; temperature 99.8°. P.M. Pulse 126; temperature 101.2°.

14th.—A.M. Pulse 120; temperature 100.7°. P.M. Pulse 128; temperature 101.1°. The rise in temperature was accompanied by pain in the region of the wound and headache. She did not sleep well during the night, and complains to-day of considerable pain in the side. On the removal of the dressing a fluctuating swelling was found just above the centre of the united wound. As the contained pus could not be pressed out through the drainage-tube in the old empyema cavity, a small incision was made, though which about an ounce of somewhat fetid pus was evacuated. A small drainage-tube was now inserted, and the cavity washed out with a two and one-half per cent. solution of carbolic acid.

15th.—A.M. Pulse 114; temperature 98.2°. Patient has slept well during the night, and the fever and pain have subsided.

21st.—Very little discharge; removed the small external drainage-tube, and shortened the internal drainage-tube an inch.

March 5.—Discharge scanty; removed internal drainage-tube, and replaced it by sticks of iodoform and gum arabic, equal parts.

21st.—Patient had headache and rise of temperature last night. No pain in the side. The wound is superficial and granulating. There is nothing to

be found in the thorax to account for the transient rise in temperature.

22d.—The patient was discharged from the hospital cured.

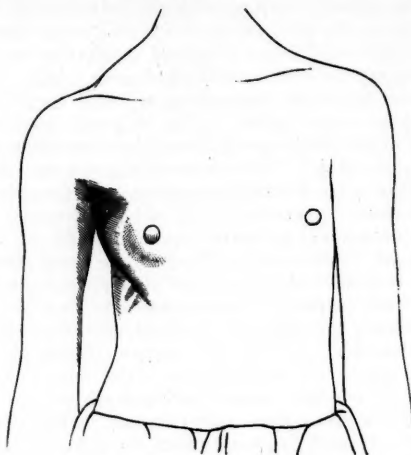
August 8.—The patient came to my office.* Her condition was then as follows: The right shoulder was an inch lower than the left. The right clavicle half an inch lower than the left. The right angula scapulæ three-quarters of an inch lower than the left. The arms being in a corresponding position, the distances from the spines of the vertebræ to the medial margin of the right scapula were, in the upper half, two, and in the lower half one and one-half inches; to medial margin of the left scapula, three inches. When the elbows were pressed against the crest of the ilium, the left arm was at all points in contact with the lateral wall of the thorax, but between the right arm and the lateral wall of the thorax, there was a space of three-quarters of an inch in the centre and half an inch at the axilla and above the crest of the ilium. The lower margin of the right pectoralis major had a horizontal portion one and one-quarter inch in extent; the left had none, or only about a quarter of an inch. About the nipple the circumference of the left thorax was thirteen and a quarter inches; of the right, ten and three-quarters inches, measurements being made below the angle of the scapula. At the axilla the circumference of the left thorax was thirteen and three-quarters inches; of the right, eleven and three-quarters. In the region of the eleventh dorsal vertebra the circumference of the left thorax was twelve and a half inches; of the right, ten inches. The anterior surface of the sternum was turned to the right. The deepest sinking in of the right pleural cavity was at a point just above the nipple, corresponding to the fourth rib, where the antero-posterior diameter was three and a half inches; at the corresponding point on the left side, the diameter was five inches. Immediately below the clavicle, the antero-posterior diameter on the right side was three inches; on the left, three and three-quarters inches.

On the right anterior side there was clear percussion to the fourth rib, below this point, dull; in the axillary region clear percussion to the fifth rib, below this point, dull. On the posterior side percussion in the supraspinatus, infraspinatus, and interscapular regions, was clear; in the infrascapular region, dull. There was vesicular respiration on the anterior side in the place of the clear percussion, and on the posterior side, except in the interscapular region, where the respiration had a hollow, bronchial character.

On the left side there was clear percussion down to the third rib, where the heart dulness commenced, extending from the left border of the sternum to the region of the nipple, where, between the fourth and fifth ribs, the apex beat was perceptible. The heart and left lung were perfectly normal.

The scar, shown in the accompanying cut, was four inches long, extending from two inches below the right nipple, at about the sixth rib, upward and backward to the anterior border of the latissimus dorsi. Two inches behind and above the upper end

of the scar, was the cicatrix of the buttonhole opening for the drainage-tube.



In the dorsal region there was a slight curvature of the spine, the concavity to the right, the centre of the concavity being at the eighth or ninth dorsal vertebra.

The patient has had monthly attacks of migraine, but neither pain in the chest nor cough.

The ends of the resected fourth, fifth, and sixth ribs, could be plainly felt, but between them the wall of the thorax was so resistant that it was evident that formation of osseous tissue had taken place.

The patient's general condition was good. Her appetite was better than when the fistula was open, and she was not anæmic.

From the beginning the empyema in this case was undoubtedly a total one; that is, it involved the entire pleural cavity, as was shown by the very considerable uniform diminution in size of the whole right thoracic cavity, which amounted to two and two and a half inches in the circumference, and from three-quarters of an inch to an inch and a half in the antero-posterior diameter of the thorax. As far as the extent of the empyema was concerned, this was one of the grave cases, and it is not surprising that even, as in this case, in a child less than fourteen years of age, the flexibility of the thoracic wall should not be sufficient to permit the sinking in necessary to bring it in contact with an almost entirely compressed lung. It is probable, however, that at the age of this patient, if the empyema had been properly treated from the beginning by timely incision and drainage, the lung, freed from the constant pressure of the large quantity of fluid contained in the cavity, might have been able to expand before the covering layer of connective tissue had become too thick and firm, so as to meet the wall of the thorax, and consequently a permanent cure might have been effected earlier, and a larger amount of lung-tissue made available for future use. This is the more probable, as in none of Estlander's cases was the thoracoplastic operation necessary in patients under twenty-one years of age, and it is certain that only in a child could such a remarkable diminution

in the size of the thoracic cavity, as was seen in this case, have been possible.

In my case, the effect of the operation, namely, the closure of the cavity and fistula, was very prompt, taking place in fifty-four days after the operation, or in twenty-two days less than Homén's average. This was to be expected, as Estlander's patients were older.

The immediate result of the operation was plainly to be seen in the remarkable sinking in of the thoracic wall in the region of the nipple, that is, over the fourth rib, where the antero-posterior diameter was lessened an inch and a half.

The idea of resecting pieces of the ribs in empyema is not a new one, as more than twenty years ago Roser advised the excision of a piece of a rib, three to six centimetres long, in order to get access to an empyema cavity and to avoid trouble in keeping the fistula open. For this purpose excision of the ribs has been in general use in surgery for a number of years, and is practised everywhere. Homén states that an American surgeon named Walter (*British Medical Journal*, January 2, 1860), in 1857, resected an inch of the eighth rib in a case of intractable fistulous empyema, because he thought that caries of the rib might possibly be the cause of the suppuration. As no improvement took place, two months later, he resected two inches each of the eighth and ninth ribs for the same purpose. The fistula closed up a year afterward.

It is thus evident that Walter had made a thoracoplastic operation, but without being exactly aware of the idea of the procedure. Simon, in 1869, was aware of the fact that after resection of a rib for empyema, the cut ends of the bone soon approached each other, and he laid stress upon the fact as a means of diminishing the size of the empyema cavity.

Heineke, in 1872, proposed to remove a piece of the rib covering the fistula, seven centimetres in length, for the same purpose.

To Estlander belongs the undisputed merit of having systematized the operation, extended it to the resection of as large a number of ribs as the size of the cavity may require, and reported a series of eight operations (*Revue Mensuelle de Médecine et de Chirurgie*, February, 1879); in fact, Estlander has proved not only the practicability of the method, but also its great value. In reality the operation is Estlander's, and it, therefore, seems proper to accept the name, thoracoplastic, given it by him.

Indications for the Operation.—As already stated above, the thoracoplastic operation will have to be resorted to in cases of intractable empyema cavities that have resisted all other treatment. But the question arises: When in the course of such an empyema is it time for the operation? Naturally it is impossible to fix a stated time that will apply to all cases and ages, but Estlander strongly advocates that the operation shall not be made early, as he considers it a *conditio sine qua non* for a beneficial result of the operation that both the pulmonary and costal pleura shall have been transformed into a thick layer of firm connective tissue, with its great inherent re-

tractive power. Homén gives, as an approximate rule, that when the fistula has existed four or five months without any diminution of the cavity, the operation should be resorted to. As the disease has probably existed for two or three months before the fistula, the time for the thoracoplastic will be six to eight months after the beginning of the disease.

The fact that the cavity is not diminishing in size should be ascertained by careful watching of the patient; when the successive injections into the cavity show the quantity of the injected fluid to be the same, and when, on probing the cavity with uterine sound or metallic catheter its dimensions are found to remain materially the same.

It is a question, however, if it would not be appropriate to operate somewhat earlier, as Homén has stated that the earlier the empyema operation is performed, the more quickly will the fistula heal up in favorable cases, and it is evident that the thoracoplastic operation is liable to be more effectual when the layer of connective tissue covering the lung and the wall of the thorax is of moderate thickness, instead of being firm, hard, thick, and unyielding in any direction. Furthermore, one of Estlander's main arguments for delaying the operation until the pleura has been transformed into a thick connective-tissue membrane, is this: That the pleura has lost its character of serous membrane, and thus the danger of opening into a pleural cavity is obviated.

His reasoning here is not quite correct, because at no period of an empyema is there any danger from opening the pleural cavity under antiseptic precautions in adults, and besides, if the empyema cavity be local, that is, only a part of the whole pleural cavity, there is no likelihood of opening or cutting into healthy parts of the pleural cavity during the operation, as the adhesions necessarily surrounding the empyema cavity will probably always be extensive enough to prevent such an accident, and in most cases no serous or healthy parts of the pleural cavity will be found at all.

As contraindications, advanced tuberculosis of the lung, albuminuria, and extreme debilitation of the patient naturally present themselves. Of the first two named, the albuminuria from amyloid kidney is probably the most important, as such patients are liable to succumb to the shock of even a not very serious or long operation. As to the third contraindication, the debilitation of the patient, Estlander has shown, that in patients emaciated almost to a skeleton, and so weak that they could take only a few steps, and in one in which the patient was so weak that he could hardly turn himself in bed, the operation has caused very slight transitory derangements in the patient's condition, and that the slight fever and pain following the operation have disappeared in a few days, to be followed by a remarkable, almost constant, improvement. It is thereby shown that the operation is by no means an exhausting one, but may be resorted to in cases where the patients are extremely debilitated.

Operation.—In deciding upon the plan of operation in each special case, the first consideration is naturally the shape and size of the cavity, and the plan will be essentially different when the cavity

has its greatest length from above downward in a perpendicular direction, and when its direction is transverse from before backward. A longitudinal cavity, covered by five, six, or seven ribs, and not extending from the sternum to the vertebral column, but only occupying part of the thoracic cavity, will usually have the greatest depth in the axillary and infra-axillary regions, and will require the resection of small pieces, that is, from two to six centimetres, of a large number of ribs. In one of Estlander's cases, in two successive operations, two to six centimetres were resected of not less than nine ribs, from the third to the eleventh inclusive.

The first and second ribs are, as a matter of course, so inaccessible, and, also, so near the large vessels, that they are out of the question for resection. The twelfth rib is too short and too movable to ever require the operation.

A transverse cavity requires the resection of a larger piece of one or a few ribs. As to the length of these pieces, Homén, from a rather theoretical point of view, by mathematical deductions, gives the rule that there should be resected of each rib a piece, the length of which is equivalent to the greatest distance between the inner surface of the rib and the pulmonary surface of the cavity. Consequently, of several ribs covering the cavity, the largest piece will have to be resected from the rib extending over the middle of the cavity. In the main, these theoretical deductions will be found practically applicable.

The most important muscles interfered with are the pectoralis major and the serratus anticus major. When the resection is made strictly subperiosteal, there will be the same rehabilitation of functions of these muscles as in the subperiosteal excisions of joints, a more or less extensive formation of new bone always taking place in the periosteal sac of the excised ribs.

The incision varies according to the number of ribs to be resected. For the excision of long pieces of two or three ribs, one single incision parallel to and either between the two, or along the middle rib of the three, will give sufficient space for the removal of the pieces, especially when by sinking in of the thorax the ribs are in more or less close approximation to one another.

For the excision of small pieces of a large number of ribs, it is best to make several incisions parallel to and above each other in the intercostal spaces, each incision permitting the excision of two ribs. Estlander attempted in such cases to make one vertical incision for the resection of several ribs, but found it inconvenient, as he was obliged to make several secondary incisions at right angles to the first, and so made an irregular wound, requiring several drainage tubes, and slow and somewhat difficult to heal.

Through the incision in the skin, the periosteum is divided along the external surface of the rib and stripped from the latter by a common gouge. This is usually accomplished without difficulty. Occasionally it is rendered more difficult when, by sinking in of the thorax, the ribs are pressed together, and sometimes even overlap. To perform the

operation in such cases it would be necessary to commence with the most superficial rib of course.

As a matter of course, the ribs should not be denuded of periosteum beyond the location of the piece to be excised, with the view, as Homén states, of avoiding necrosis of part of the resected rib. Fear of such a necrosis would be unnecessary if all excision wounds healed by first intention. But this will, as a rule, not take place, because the wound is in connection with an already suppurating cavity, from the walls of which, by the most careful scraping out, all of the inflammation-producing germs cannot be removed.

The hemorrhage is always insignificant; Estlander has never been obliged to make a single ligation.

If the cavity is small and the walls sufficiently firm, it may be well to remove the soft suppurating layer of granulations with the sharp spoon, providing the cavity is so situated that no important organs are thereby endangered, for the following reason: If the thoracoplastic operation is sufficient to produce perfect approximation of the walls of the cavity, the scraping out might make closure by first intention possible.

A counter-opening from the cavity to the posterior wall of the thorax at the latissimus dorsi muscle is desirable, if not necessary, if the cavity is of considerable size.

The external wound should, of course, be united, drained, and dressed antiseptically.

The after-treatment lasted generally about ten weeks in the cases in which recovery took place. The fever following the operation was always moderate. The rather constant and more or less violent pain in the operation wound was remarkable. It usually lasted only for a few days, and was easily overcome by morphia.

The wound should be dressed every two to four days, according to the amount of discharge, accompanied by washing out with antiseptic fluids through the drainage-tubes. How far the theoretical rational advice of Homén to assist the sinking in of the thoracic wall operated upon, by local pressure upon it, is practicable, cannot yet be stated. In my case it was impossible to resort to this measure, because of the pain in the side, which did not permit me to apply the common dressings even as firmly as I wished, but obliged me to apply the roller bandages as loosely as possible and still hold the dressings in place.

An important question during the after-treatment is to determine the progress of the diminution of the cavity, by means of the quantity of fluid injected and the probe. When it is found that a cavity comes to a standstill, a second or even a third operation may have to be resorted to. The time between the two operations in the same case has varied from six weeks to five months.

The thoracoplastic operation should undoubtedly be accepted as a valuable, if not a necessary, final step in the treatment of empyema, a general view of which would be nearly as follows: As soon as the diagnosis of an empyema is thoroughly established, aspiration should be first resorted to if the pus in the pleural cavity is not fetid. If after repeated aspira-

tions the fever does not decrease, nor the lung expand, and the cavity refills rapidly, the empyema operation by incision *in loco selecto*, and counter-opening in the lowest part of the cavity, with resection of a piece of rib if necessary, and thorough drainage and washing out, is in order. This operation should be performed as early in the disease as possible, as the statistics have shown that the earlier it is performed, the better are the chances for recovery.

Finally, if this operation does not procure complete recovery, that is, complete closure of the cavity within about six months, the thoracoplastic operation should be performed, and if necessary be repeated until perfect recovery is obtained.

Estlander has established beyond doubt that some lives, otherwise lost, may be saved by this operation, and I am glad to do honor to the memory of a man with whom I have been in friendly relations in former years, and whose premature death is a deplorable loss to science, by bringing his operation before the notice of the profession of this country.

120 W. INDIANA ST., CHICAGO, ILL., July, 1882.

A CASE OF BRONCHITIS IN A NEW-BORN INFANT—DEATH ON THE THIRD DAY.

BY ANDREW F. CURRIER, M.D.,
OF NEW YORK.

MOST of the diseases of foetal life must forever remain obscure. When the mother is apparently in good health during the months of utero-gestation, and comes of good lineage, we look for healthy offspring. (Of course infectious diseases are excluded in this statement.) The child is beyond the power of clinical observation until it comes into the world, and then the physician is occasionally so heavily handicapped that his efforts to assist the sufferer are unavailing. Such is the case in bronchitis neonatorum. Vogel says the patients usually die.

Mrs. E. E., the mother of the child is of Welsh birth, twenty-one years of age, has always been healthy, and comes from a healthy family. Her mother had nine children, all but the last of which were delivered with the assistance of a midwife only. Her last menstruation was in September, 1881, and with the exception of constipation and some slight pain in the left side and leg during the latter months, she suffered no inconvenience during her pregnancy. Labor began at 4 A.M., June 9th, when she was awakened from sleep by the breaking of the foetal membranes and the escape of the waters.

When I saw her a few hours later, she was having occasional pains, of no great force; the os was sufficiently dilated to admit the ends of two fingers, the vaginal tube was soft and well lubricated, and the head presented above the brim in the first position. Labor progressed rather slowly, but the patient had an abundance of strength, and would not permit the application of the forceps. The head was delivered without accident at 2 P.M., and as the uterine contractions then became very weak, some force was required for the removal of the body. Respiration was secured after a few moments of effort, though the child was deeply cyanosed at birth.

After expressing the placenta, it became necessary to peel off the membranes, which were adherent at the lower segment of the uterine body. Quite a copious hemorrhage followed, which was checked by firm and persistent pressure upon the uterus, after which the organ contracted properly. The placenta was of about the average size, and healthy in appearance. The cord was centrally inserted, was of average length, but of small calibre. The membranes were soft and easily torn.

The child was a fairly developed male, weighing about seven pounds. The frænulum linguae extended nearly to the tip of the organ, and this was cut away without any resulting hemorrhage. Within half an hour after birth the child had a spasm, and became deeply cyanosed. I removed a quantity of thick mucus from the mouth and throat, but supposed it was nothing different from what one frequently finds in the mouth of new-born infants. In a few minutes the spasm and cyanosis recurred. He was put into hot water, and more mucus removed from the mouth. As he seemed tolerably comfortable after recovering from this attack, was breathing fairly well and seemed to have a proper circulation, I hoped he would have a comfortable night. In this I was disappointed, for there were several attacks of dyspnoea during the night.

The next morning the pulse was not more rapid than is usually found in so young an infant; the skin was of good color, but the breathing was very rapid. Mucous râles could be heard over the lower lobe of each lung, particularly the right one. The child was placed at the breast, and the mother said she could feel suction. Small doses of carbonate of ammonium dissolved in simple syrup were ordered every two hours, and as the mucous membrane of the lips and nose were becoming dry, sweet oil was placed upon them.

The next day when I called the child was very weak, breathing rapidly and with difficulty, and in a semi-unconscious condition. He had resisted all attempts to introduce anything into his stomach, choking violently each time. Death took place about fifty hours from birth. The father consented to an autopsy, but upon reaching the house I found the mother violently opposed to it. As she was excited and feverish, it would have been unwise and improper to press the matter, so that the question as to the absolute condition of affairs remained unsolved.

Whether the foramen ovale was closed, whether there was atelectasis or a simple catarrhal bronchitis, which was not diffuse, excepting over the lower lobe of each lung, I was unable to find out by inspection of the parts. From the facts which have been stated, I am inclined to the last-mentioned view of the case.

The subject of congenital bronchitis is not dwelt upon by any of the writers upon children's diseases, which I have been able to find. They all describe bronchitis, and Bouchut has stated that it may be present from the moment of birth. He considers general bronchitis, capillary bronchitis, and bronchopneumonia, as synonymous. Smith, and Meigs and Pepper would probably refer this case to atelectasis,

which is described with great clearness. Gerhardt, Vogel, and Rilliez and Barthez, strengthen the diagnosis made, without saying anything positive about the congenital existence of the disease. The older writers, Churchill, Tanner, Hölder, Condie, and others, make little or no reference to the disease among the newly-born. Tanner, as the result of his own observation and the published statements of Billiard and Valleix, thinks that the influence which age has upon the disease is difficult to state precisely, especially with reference to the newly-born. He has not often seen it among infants at the breast, and thinks it rare.

HOSPITAL NOTES.

VIENNA GENERAL HOSPITAL.

(Service of PROF. SPAETH.)

"CONGLUTINATIO ORIFICII UTERI;" DILATATION, HYSTEROSTOMATOMY.

(Specially reported for THE MEDICAL NEWS.)

A CASE of "conglutinatio orificii" (Nägele) has recently been observed in the lying-in-rooms of the second obstetrical clinic.

The patient, white, Austrian, unmarried, thirty-two years old, brought into the ward August 17, was in her first pregnancy, and had felt labor-pains for the three preceding days. The course of her pregnancy was of a normal character. Abdominal palpation revealed pregnancy at full term, vertex presentation, first position (Vienna nomenclature). Heart sounds were loud, regular, and perfectly normal; vaginal examination showed the fornix vaginae to be of orbicular shape and well pressed down into the canal. The small fontanelle was felt, through the fornix vaginae, to the left and behind, constituting a vertex presentation, first position. No cervical portion or external orifice could be perceived. Finally, the finger touched a depression toward the anterior portion of the fornix, which, upon examination with a Sims' speculum, proved to be the position of the external orifice. Roundabout this little depression very tender radiating cicatrices were noticeable; its centre was a papilla of a strawberry appearance, resembling granulation tissue. The orifice of the uterus was covered with a lamella, which was so tough that it could not be broken up by the fingers. Accordingly, Simpson's sound was passed through it, and dilatation effected by means of a bougie first, and a pair of dressing-forceps subsequently. Still later, two fingers were introduced and the external orifice was stretched to the extent of two cm. The whole operation was exceedingly painful, as no anæsthetic was administered. During the dilatation the bag of waters was ruptured. Three hours later the external orifice had made very slight progress in dilating, while the woman was experiencing very strong frequently recurring pains. The cicatricial constricting fibres of the cervix were then divided in seven or eight places with a button-pointed bistoury. This operation was also accompanied by great pain, while the hemorrhage was insignificant.

One-half hour later, the birth reached its terminus. The child was a girl, mature, in good condition, weighing 3150 grms., and with a length of 50 cm.

"Conglutinatio orificii" has occurred about once in a thousand cases in the wards of Prof. Spaeth. The cause of the affection, according to Prof. Carl Braun, is either an abnormally short vaginal portion, which permits the mucous membrane of the fornix vaginae to grow together, occluding the orifice, or a croupous or local inflammation of the external orifice, as above, or of the

cervix, leading to the formation of cicatricial connective tissue, with subsequent contraction and obliteration of the orifice alone, or of a portion of the cervical canal. The first condition, the occlusion of the external os, is termed by Nägele, "conglutinatio orificii"; the second condition, the organic connection of a portion of the mucous membrane of the cervix with the vaginal portion, is termed by Schmitt "conglutinatio organica." Prof. Braun is of the opinion, gathered from his immense experience of twenty-five years in the greatest obstetrical school in the world, that it is never necessary to make a bloody opening of the mouth of the uterus in case of "atresia orificii."

MEDICAL PROGRESS.

THE FILLET IN BREECH PRESENTATIONS.—DR. HEINRICH V. WECKBECKER-STERNFELD, assistant physician to the lying-in institution at Munich, contributes to a recent number of the *Archiv für Gynäkologie* a paper on the above subject. He points out that there are cases in which some help is required, in which traction by the unaided finger is inefficient, and bringing down a leg difficult and not devoid of danger. The blunt hook cannot be used without much risk of injuring the child; the forceps are apt to slip, and, indeed, can only get a hold by strongly compressing the pelvis. There are, therefore, cases in which traction by the fillet or loop is called for. The object of the paper, and our reason for quoting it, is to describe a new instrument invented and recommended by Professor Hecker, of Munich, for the purpose of getting the loop into position. It consists of a blunt hook having a very obtuse curve, somewhat that of a bladder-sound, and hollow from end to end. In this travels a steel spring, like that of Bellocq's instrument for plugging the nares. The tape (or strip of whatever material is preferred as a means of traction) is provided with a little pocket at one end, into which the extremity of the blunt hook fits. It is thus carried by the hook up on the outer side of the hip-joint, and over the fold of the groin. The spring running inside the hook is then pushed forwards, made to protrude from the end of the hook, and of course carry before it the pocket on the end of the strip of tape. The elasticity of the spring makes it curl round the thigh, and then, of course, the end of the tape can be seized and drawn downwards, and an efficient means of traction is thus secured. The author gives an account of twelve cases in which this means of delivery was used. As the chief objection commonly urged against it is the risk of injury to the fetus, we quote the results from this point of view. Four times deep pressure-marks were found; twice superficial excoriations. In one case a fracture of the humerus was produced in drawing down the arm, and twice fracture of the femur—in one case made in an unsuccessful attempt to bring down a foot, in the other during extraction by the loop. No maternal bad result was noticed, except in one case rupture of the perineum during extraction of the shoulders.—*Medical Times and Gazette*, September 2, 1882.

CAFFEIN IN HEART DISEASE.—The use of caffeine has not become general in this country as yet. In England it has attracted some attention as a diuretic, and it has been used to some extent as a nerve tonic, Dr. Shapter having specially commended it in the treatment of nervous diseases dependent upon the abuse of alcohol.

Professor Lépine, in a recent paper in the *Lyon Médicale*, urges the use of caffeine in the treatment of heart diseases, in the same class of cases in which digitalis is usually found valuable. He thinks that caffeine pos-

sesses distinct advantages over digitalis, which he considers in detail.

He has been using caffein in these cases for four years, and has administered it to more than sixty patients. He maintains that the dose, to be effective in action upon the heart, must be considerably larger than that which has ever been generally administered heretofore. He gives from 60 centigrammes (9.25 grains) to 1.5 gramme (23 grains), and sometimes 2 grammes (30 grains), or even 2.5 grammes (37 grains). Such doses as are directed in the books he finds utterly inefficacious.

He found that this drug is equally effective with digitalis in retarding the rate of cardiac action and in increasing its force. In comparing the relative merits of the two drugs, he asserts that caffein acts much more rapidly than digitalis, which fact, though it may be of little importance in a chronic disease, may be of real importance where asystolia occurs as an acute condition. Secondly, he says that caffein is much better tolerated than digitalis, and if taken in divided doses during the day very seldom causes any symptoms of intolerance at all, such as are not at all infrequent in the administration of digitalis. This he attributes to the facility with which caffein is eliminated. Of course, where the kidneys fail to eliminate the drug it would be retained in the system, and would occasion disturbance, but he claims that the danger from this source is far less than that from the use of digitalis. Finally, he has found that by the majority of patients the caffein is preferred to the digitalis. He has repeatedly found this to be so in cases where he has used both drugs alternately upon the same patient.

On the other hand, there is a certain proportion of patients (he has found this true in about one out of twenty) in whom caffein produces insomnia and other nervous symptoms. While these cases are rare they do occur, and this condition is an absolute contra-indication to the use of this drug.

M. Lépine does not claim that caffein will cure all cases of asystolia, but does assert that it has all the merits of digitalis and some advantages over that drug. He promises to give reports more in detail of his own observations and of cases that have been reported to him by some of his colleagues.—*St. Louis Courier of Medicine*, September, 1882.

INTER-CRICO-THYROID LARYNGOTOMY.—DR. LAUNY (*Lyon Médicale*, June 12, 1882) deals exhaustively with this operation in a pamphlet issued by him within the last few months. The merits of the operation have been repeatedly discussed by various surgeons, but the objections to it have never been sustained by exact anatomical data. M. Krishaber, on the contrary, has proved that in the adult the crico-thyroid membrane was sufficient to admit the introduction of a suitable canula. Dr. de Launy has undertaken measurements on dead subjects, and he has been able to obtain a maximum space of from 12 to 14 millimetres in the adult—2 or 3 millimetres may be added by removing the cricoid cartilage. In the child, laryngotomy is scarcely possible except when over 12 or 13 years of age, when the crico-thyroid space measures at least 7 millimetres.

The operation is easy and clearly indicated. The author strongly advises the employment of the thermocautery of Paquelin. By operating slowly and at a dull red heat no bleeding of any consequence occurs. The vertical incision is sufficient and preferable; it permits the introduction of the canula without requiring previous dilation.

A complication accompanying inter-crico-thyroid laryngotomy is a dysphagia which occurs on the day of or the day after the operation, and lasts from eight to nine days. It is probably due to the pressure exercised

upon the anterior wall of the œsophagus by the convexity of the canula.

He discusses the indications for and against the operation. It should be performed when the patient's life is in danger. One ought immediately to operate in pseudo-membranous laryngitis, œdema, burns of the larynx, or where foreign bodies are present. Sometimes laryngotomy is alone possible; for example in swelling of the vessels of the neck, in tumors which displace the trachea, and above all, in affections of the thyroid body. In this last case, it is advisable occasionally to overcome the obstacle by replacing the internal canula by an œsophageal catheter.

This operation is, nevertheless, contra-indicated when the lesion renders the crico-thyroid space insufficient to admit an ordinary canula. It is formally forbidden under the age of 12 years, and in the aged, whose crico-thyroid articulations are quite ankylosed.—*Glasgow Medical Journal*, September, 1882.

STRANGULATED HERNIA: WOUND OF INTESTINE.

A woman, aged 35, who had for many years had a right inguinal hernia only imperfectly kept up with trusses, and who three months previously had had an abscess over the hernial sac, was admitted into the Necker Hospital under M. Trélat with all the symptoms of strangulation of the hernia. As taxis had already been tried, M. Trélat had her at once anesthetized, and, after a further attempt at taxis, operated. On opening the sac he found the intestine bound to the sac by old adhesions. He proceeded to dissect through these adhesions, and while so doing the gut ruptured. The dissection was proceeded with, and then the wound in the intestine was closed with seven interrupted sutures, and, after careful cleansing of the parts, the gut was returned, the sac excised, and the wound closed by deep and superficial sutures. Next day the patient passed a motion. The wound healed by first intention, the drainage-tube was removed on the fourth day, and the patient recovered without any complication. This case is very encouraging, for the congested state of the intestinal walls was not favorable to rapid healing of a wound in it or to tolerance of sutures.—*Lancet*, September 2, 1882.

GALL-STONES DISCHARGED THROUGH AN ABSCESS IN THE RIGHT GROIN.

At a recent meeting of the Cambridge Medical Society, MR. WHERRY related a case of gall-stones discharged through an abscess in the right groin. It occurred in a woman, under his care, who had an obscure swelling in the right inguinal region: an exploratory puncture discovered pus too thick to flow through the canula, but a free incision let out thick pus and over a hundred gall-stones. The finger passed into the wound in the direction of the gall-bladder; a large drainage-tube was then tied in the opening, through which gall-stones still pass. There was no bile, and no fecal odor. The patient had a remarkable history. She was for several years subject to attacks like ague. One year ago she first noticed in the right side of the abdomen a swelling, which enlarged painlessly until it could not be spanned by her hand; her bowels were regular, and she had no jaundice. Two months later the swelling appeared, from her description, to burst inside her, and she was immediately seized with violent cramp-like pains in the right lumbar and iliac regions. The swelling diminished, and she had now attacks of vomiting of dark fluid every five minutes for five days, and during this time she ate nothing; but when the vomiting ceased she had a ravenous appetite, and was able to walk about. Altogether she had five similar attacks of vomiting, lasting from three to five days each, followed by several weeks of health.

Mr. Wherry mentioned a case of three fistulæ from the gall-bladder which led respectively to the duodenum, colon, and skin. A biliary fistula has been known to communicate through the open urachus with the urinary bladder. Gall-stones are reported to have been found in the right bronchus and in the portal vein. Cases of biliary fistulæ opening externally are said by Murchison to occur usually in women, and to be caused by gall-stones, and even when connected with cancer, either worms or gall-stones are also found. In reply to Professor Humphry and Dr. Paget, Mr. Wherry said that he thought there must have been an abscess near the fundus of the gall-bladder into which the gall-stones were discharged after adhesions in the neighborhood: that as there were no jaundice and no pain the inflammation was limited to the gall-bladder and cystic duct. No bile came through the external wound, and the patient had a prospect of complete recovery. Columbus mentions that in the case of St. Ignatius Loyola a gall-stone was found in the portal vein, and an undoubted case has been recorded lately.

Dr. Paget mentioned the case of a lady he had seen some years ago in a desperate state of illness, when there was great pain and tension of abdomen; and when an incision was made, no less than 160 gall-stones escaped, though not all at once. In this case the patient recovered and lived for years. He referred also to another case, in which the patient passed a big stone, but died from cancer of the liver.—*Med. Times and Gaz.*, Sept. 2, 1882.

THE PHYSIOLOGY OF SECRETION.—DR. GAMGEE delivered an interesting address on the growth of our knowledge of the function of secretion before the Biological Section of the British Medical Association. The following are his general conclusions. The complicated studies of the physiology of secretion have brought into greater prominence the dignity, if I may use the expression, of the individual cell. The process of secretion appears as the result of the combined work of a large number of these units. Each, after the manner of an independent organism, uses oxygen, forms CO₂, evolves heat, and derives its nutriment from the medium in which it lives, and performs chemical operations of which the results only are imperfectly known to us, and which depend upon peculiar endowments of the cell protoplasm, of which the causes are hidden from us. So long as the protoplasm is living, the gland cell retains its power of discharging its functions, and in many cases does so, so long as the intercellular liquid furnishes it with the materials required. In some cases, however, the gland cells are specially sensitive to a variation in the composition of the nutrient liquid, certain constituents of which appear to stimulate the protoplasm to increased activity. In the higher animals, the cells, particularly in certain glands, are in relation to nerves which, when stimulated, affect in a remarkable manner the transformations of their protoplasm, leading to an increased consumption of oxygen, an increased production of carbonic acid, an increased evolution of heat, and an increased production of those matters which the cell eliminates and which constitute its secretion.

This historical survey of the growth of our knowledge of the process of secretion exhibits the characteristic features of biological advancement. Comparative anatomy has been the foundation of, observation of facts and physical experiment the road to, physiological research. At various stages the value of hypotheses has been well illustrated, and whenever they have had to make way for the broader and truer interpretations suggested by the accumulation of facts and greater precision of observation, it has been demonstrated that

the process of observation is not one of simple sight, but of complex ratiocination.—*Lancet*, Sept. 2, 1882.

CEREBRAL PHYSIOLOGY; THE CROSSED ACTION OF THE BRAIN AND MEDULLA.—DR. BROWN-SÉQUARD has continued his vigorous criticism of modern neurological theories in another communication to the Académie des Sciences. He pointed out that these doctrines rest upon two kinds of proof, to one of which his paper was devoted—namely, to the evidence which has been drawn from the phenomena observed when various parts of the cerebrum are irritated; phenomena which consist chiefly in movements of the limbs on the opposite side. The foundations of the doctrine that movements of one-half of the body are innervated from the opposite half of the brain have been considerably strengthened by the experimental and clinical facts on which the theory of psycho-motor centres rests. But to this doctrine Dr. Brown-Séquard states that his own experiments are absolutely opposed. The numerous researches which he has undertaken during the last four years, seem to him to involve conclusions exactly contrary to the opinions which are universally received. For example, against the assertion that the irritation of the motor region of the brain uniformly produces movements in the limbs on the opposite side, he opposes certain experiments of his own. These show that irritation of one side of the pons Varolii or of the medulla, even of the anterior pyramid, causes, eight or nine times out of ten, movements of the limbs on the same side, and the same effect is observed when, after a transverse division of one-half of the medulla, the superior part of the pons is stimulated, mechanically or by electricity, in the part considered as a motor. Irritation of the cerebral peduncle in the part considered as motor often causes movements of the limbs on the same side. This result occurs five or six times in ten when the peduncle is irritated in its inferior part, and two or three times in ten when the stimulation is applied to the upper part. If the fibres are galvanized which pass from the corona radiata or corpus striatum to the peduncle, movements are often observed on the corresponding side of the body. If these parts are divided transversely on the right side or on the left, the mechanical excitation thus produced rarely causes movement, but when it does the effect is usually manifested on the same side as the irritation. Even stimulation of the motor zone of the cortex, as Couty has shown, sometimes causes movements on the corresponding side. Moreover, Dr. Brown-Séquard has repeatedly shown that if this zone is galvanized, after the lateral half of the medulla or of the pons Varolii is divided, the movements in the opposite limbs, instead of being prevented by this section, occur with still greater force than before the division of those conductors which have been believed to be alone capable of transmitting the stimulation of this zone to the limbs.

According to received doctrines, if one lateral half of the cervical cord is divided at the level of the second pair of nerves, and different parts of the brain are then stimulated mechanically or electrically, on the same or on the opposite side to the spinal lesion, no movement should occur, or only a very slight movement in the members on the same side as the lesion. But Dr. Brown-Séquard finds that under these circumstances, stimulation of the brain causes energetic movements of the limbs, such as a "bipedal" movement, diagonal or lateral, to right or left, or a movement of three, or even of four limbs. He concludes from this that one-half of the cord will suffice to transmit to the limbs, on both sides of the body, the excitation caused by stimulation of the opposite half of the brain.

According to received doctrines the transverse section of the two lateral halves of the base of the brain, the

one section at a distance of one centimetre above or below the other, ought to destroy all or almost all communication between the spinal cord and the portions of the brain above the higher section, so that mechanical or chemical excitation of the cortex should cause no effect on the limbs. But Dr. Brown-Séquard asserts that under these circumstances not only does stimulation of the motor centres act energetically upon the limbs, but the same effect is produced by stimulation of parts which are not considered to be motor, such as the opto-striate bodies. In this case, also, the effect is usually most marked on the same side as that stimulated. An analysis which Dr. Brown-Séquard has made of five-hundred cases of unilateral convulsions in consequence of varied lesions of the brain, shows that the same result is true of man as of animals. Irritation of the base of the brain and the adjacent motor region causes convulsions more frequently on the side irritated than on the other. The superficial parts of the brain, it is true, produce chiefly crossed convulsions, but irritation in all parts may cause convulsion on the same side.

The conclusions drawn by Dr. Brown-Séquard are that one of the chief foundations for the theory of psychomotor centres, and of the crossed functional relation between the hemispheres and the limbs, must be considered to have lost its value; and, secondly, that the excitomotor zone of the cerebral surface, and indeed all the excitable parts of the brain, are capable of putting in action the limbs of the same side, as well as those of the opposite side, and that they may produce these effects after the transverse division of one-half of the pons Varolii, of the medulla, or of the cervical cord, and even after two sections of the base, one of the right half and the other of the left, provided a certain interval exists between the two.—*Lancet*, June 10, 1882.

HEAT-STROKE.—From a careful study of the subject, M. H. LONGUET draws the following conclusions: First, as regards the pathology of the affection, he believes that failure of the heart is the essential symptom, possibly due to coagulation of the myosin of the heart muscle from exaggerated external heat; associated with this there is asphyxia from loss of respiratory power of the blood corpuscles. Clinically it is difficult to differentiate between heat-stroke and sun-stroke, possibly the cerebral symptoms are more pronounced, and occur more frequently in sun-stroke. Suppression of perspiration constitutes a grave symptom. In treatment, cold baths and douches are recommended, and subcutaneous injections of quinine, pilocarpine, and ether.—*L'Union Médicale*, August 22, 1882.

CONTUSION OF THE POPLITEAL ARTERY WITHOUT DAMAGE OF THE EXTERNAL PARTS, FOLLOWED BY THROMBOSIS AND DEATH.—The following case is reported in the *France Médicale*. A man, thirty-two years of age, was run over by an omnibus and brought to the Hospital Necker. The wheels of the omnibus ran over the lower limbs just below the knee-joints. The right limb was seriously damaged, and there was a good deal of bleeding, which was stopped by a tampon. On the left limb there was a large ecchymosis, without any damage of the external parts. Both knee-joints were infiltrated and immovable. On the following night there was noticed considerable friction sound under the knee-joint. Both limbs were treated antiseptically. The pulse was 100; temperature 86°, and the patient vomited. The next day all the symptoms were aggravated; temperature 80°. The left limb was cold, insensible, and no arterial pulsations. The patient vomited severely. The next day gangrene of the left limb set in. Antiseptic treatment was abandoned on account of the dark-colored urine. An operation was not determined upon, on account of the severe general

symptoms (*sic*!). The patient died after being five days in the hospital. The autopsy showed a bi-malleolar fracture of the right limb and bloody infiltration. On the left limb the lesions were highly interesting. The articulation of the knee-joint was filled with blood. The subcutaneous tissue was largely infiltrated with blood, and the infiltration was dispersed through the muscular interstices down to the foot. The soleus muscle was partly ruptured, and torn from its superior insertion. The popliteal artery was not ruptured. On the posterior aspect of the tibia, the popliteal artery appeared to be blackened, and cylindrical in form. The external wall of the artery was infiltrated with blood and there was a complete occlusion, the artery forming a flat cylinder. This was caused by a contusion of the artery, which had been pressed between the tibia and the wheels of the omnibus. On opening the artery there was a dark clot, three cm. long, adhering to the anterior walls of the vessel. The inner coats were ruptured, and the adventitia infiltrated with blood. The aorta, the femoral artery, and the sigmoid did not show any signs of atheroma.—*Chicago Medical Journal and Examiner*, August, 1882.

THE CHEMISTRY OF PUTREFACTION.—The chemical mechanism of putrefaction, and the nature of the alkaloids which result, is the subject of a recent communication to the Paris Académie des Sciences by MM. GAUTIER and ETARD. They had previously shown that, as soon as the putrid fermentation of albuminous substances is well established, the reaction becomes alkaline, hydrogen disappears, and carbonic acid is released, at first rapidly, afterwards more slowly, mixed with a little nitrogen and with traces of phosphuretted and sulphuretted hydrogen. At the same time, the liquids contain ammonia, with a little trimethylamine, fatty acids, lactic acid, a small amount of oxalic acid, traces of tyrosine, phenol, scatol, indol, guanidine, xanthine, and organic alkaloids. These substances are accompanied at the commencement by a mass of glucoproteins and a soluble proteoid substance, which disappears slowly. The authors of the paper believe that all this complex series of substances is due to the circumstance that the putrid fermentation breaks up the albuminoid molecule by a method of simple hydration, and reveals its complex constituents. The process really resembles the hydration of the albuminoids by baryta, which has been studied by Schützenberger, in which there is a similar liberation of ammonia and of carbonic acid, and of a like series of substances. Thus the albuminoid molecule is doubled under the influence of bacteria, just as under the influence of water aided by heat and alkalies; and it breaks up into two principal parts: one relatively resistant, from which the glucoproteins and later the leucines are derived; another unstable, forming ammonia and carbonic and other acids. It is supposed, therefore, that the odoriferous bodies observed during putrefaction, and also certain bases which may be obtained, must pre-exist in what is termed a "nuclear" form in the albuminoid molecule. To extract the basic substances the following method was found to answer best. The liquid products of putrefaction were acidulated with sulphuric acid and evaporated in vacuo, by which means the volatile acids, indol, phenol, etc., escaped. The residue was rendered alkaline by the addition of baryta, and then filtered and shaken up with chloroform, which dissolved the bases. They were extracted by fractional distillation of the chloroform and treated with tartaric acid. Potash added in excess to the tartaric solutions liberated a strong odor of carbylamine, and set free the oily bases, which could be separated by ether and dried in a vacuum. These resembled the bases described by Selmi: oily colorless liquids, bluing litmus, neutraliz-

ing strong acids, and giving with nitric and hydrochloric acids, ferrocyanide of potassium, and ferric salts, the reactions of ptomaines. They were precipitated by bromine, iodine, and the phosphomolybdates. They quickly became resinous.—*Lancet*, July 22, 1882.

CASE OF EXTIRPATION OF THE LARYNX.—At a recent meeting of the Würzburg Medical Society, PROF. BERGMANN presented a patient in whom he had performed extirpation of the larynx. The following is an abstract of the history of the case: The patient was a man aged 54, always in good health until the summer of 1880, when he began to suffer from hoarseness and dysphagia, and laryngoscopic examination made October, 1881, revealed the following conditions: The epiglottis was normal; on the left ary-epiglottic fold there was a large warty tumor; the left true and false vocal cords were fused together; the cavity of the larynx was greatly contracted, and the true and false vocal cords on the right side were thickened, reddened, and ulcerated. The restricted character of the disease led the author to hope for improvement under local treatment, but the laryngeal stenosis increased to such an extent that tracheotomy had to be performed on December 6th. Extirpation of the larynx was performed on January 16th. Prof. Bergmann found that the previous performance of tracheotomy was no advantage and indeed rather interfered with the operation: he therefore advises the non-performance of tracheotomy until after the thyroid cartilages have been cleared. And from the difficulty of dissecting off the constrictor of the pharynx, there is always a danger of getting into the space between the cesophagus and spinal column: he advises the division of the thyro-hyoid ligament, the seizing of the laryngeal artery with forceps, and the rapid separation of the larynx from the pharynx. The larynx is excised immediately below the cricoid cartilage, the first tracheal ring being previously fastened to the skin. The wound was treated with iodoform and corrosive sublimate gauze: three deep stitches were passed through the skin, to which the posterior wall of the trachea was fastened, and stitches were also passed through the mucous membrane of the pharynx. Healing took place without febrile reaction. The patient now wears a Brun's canula with which he is able to speak in a loud, clear voice.—*Deutsche Med. Woch.*, August 26, 1882.

RECOVERY FROM TRAUMATIC TETANUS.—At a late meeting of the Cambridge Medical Society, MR. SHIELD related the case of a lad who had recently been treated in the hospital for tetanus, and recovered, as follows: A healthy country lad, aged seventeen, was admitted on May 30. He was suffering from an extensive lacerated, contused wound on the flexor aspect of the left forearm, the result of the explosion of a gun. From June 23 to July 12 the symptoms were very severe, marked opisthotonos was observed, and the patient got rather emaciated. On July 10, the twenty-third day of the disease, it was on the wane. Gradually the spasms grew less severe, the bowels acted naturally, and the appetite improved, while the patient was walking about the ward, with his wound nearly healed, and all tetanic symptoms were gone. Throughout the whole case the temperature was, for the most part, above normal, presenting curious diurnal variations, while on several occasions it reached the height of 104° to 105° . The pulse was quick and weak, and varied slightly with the temperature. The tonic spasmodic condition of the muscles did not relax during sleep; and muscles of the eyeball and tongue were not affected. The superficial muscles were extensively disintegrated, the radial artery was torn away, but the main nerves had escaped injury, and the ulnar artery was intact. The

wound was treated by poultices and carbolic oil, and all went well until June 17, when symptoms of tetanus set in, with slight stiffness about the muscles of the jaws and of the neck. On June 19 these symptoms had become more pronounced, well-marked trismus was present, with epigastric pain. By June 23 the disease was fully developed; severe spasms, especially of the muscles of the back, were constantly present, the tongue was foul, the breath offensive, the bowels were constipated, and the pulse quick, while the temperature was high and the urine scanty and high-colored. Excessive sweating was also present, so that an eczematous condition of the cutaneous surface was produced. The onset of the disease, therefore, occupied about five days. The treatment adopted depended chiefly upon feeding and nursing. Plenty of good milk and eggs, with port wine and brandy, were frequently administered both by day and night, and fortunately swallowed and retained by the patient. Hypodermic injections of morphia were administered every evening, when the anguish was severe, and caused relief and some snatches of sleep. The bowels were relieved by enemata, and during their peristaltic action the patient seemed to have his sufferings increased, but after the evacuation the pains were alleviated. He smoked tobacco twice, and this gave him some relief from the accumulation of mucus in the fauces.

PROF. HUMPHRY had seen a great many cases of tetanus, and had arrived at certain conclusions respecting it. First, that it is a passing malady depending, probably, like small-pox, scarlet fever, and others, upon some blood-poisoning; like them, being amenable to no known curative treatment, but running a certain course and subsiding, provided it did not kill the patient in its course; that, like them, it is fatal in proportion to the acuteness and severity of its onset. Of the rapidly progressing cases very few survive, whereas in those which come on more tardily, and more particularly in those in which the patient continues to be able to take food, a favorable result may, by good management, not unfrequently be obtained. Secondly, that the disease is attended with much wasting and exhaustion, sometimes with high temperature, and that the most important feature in treatment is to give nourishment, which must generally be in a fluid form—milk, eggs, beef-tea, wine, etc.—as much as the patient can take. While food can be swallowed there is hope. It must be urged upon the patient, who is often reluctant to take it; and no other treatment should be allowed to interfere with this. Sedatives, such as morphia, hypodermically injected, tobacco, and others, come in as adjuncts in the more severe cases, but are better abstained from unless the case is severe; and reliance should be placed solely on the feeding, with attention to the bowels, it being commonly necessary to give aperients. The worst case he had known to recover was that of an infant in whom the removal of a considerable tumor from the back of the neck was followed by tetanus. The spasms were so frequent and so severe that on several occasions the child was thought to be dead; and in this case, as in others he had observed, the seizures were most severe after a very prolonged interval, as after sleep. Still the child swallowed milk. The milk was sedulously given, no other treatment being allowed, except subjecting the child to the fumes of tobacco smoked by persons near it, which was thought to do some good; and in other cases he had found tobacco, smoked or administered in a mild form, to have a soothing effect. He had kept patients persistently under the influence of chloroform, without any benefit. The maintenance of strength by nourishment, so as to enable the patient to tide over the attack, is the great thing to be aimed at.—*Med. Times and Gazette*, Sept. 2, 1882.

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PRE-HISTORIC SYPHILIS IN EUROPE.

THE interesting question as to the antiquity of syphilis which has for many years been discussed intermittently in medical societies and journals, and which seems to have lost none of its historic, or rather its archæological, interest, has recently received two valuable contributions. In the *Annales de Dermatologie*, for January and February of this year, M. Rollet very learnedly reviewed the subject, and showed how it is proved by the documents of the priests in India, by the records of voyagers in China, of explorers in Africa, and of historians and discoverers in America, that syphilis existed in all these countries from the remotest periods. In Europe alone, according to M. Rollet, of all the countries of the world of which we have any definite knowledge, did syphilis remain unknown up to comparatively modern times—the end of the fifteenth century—and he adds that investigations among fossil remains and in old cemeteries only serve still further to establish this fact, by the absence of any syphilitic lesions upon the bones thus exhumed. The one exception which has hitherto been quoted in opposition to this was the discovery of syphilitic exostoses upon the right tibia of a female skeleton, disinterred at the Solutré. These have been described by Broca, Ollier, Parrot, and Virchow, but their value as evidence in regard to the date of appearance of syphilis was destroyed by the Abbé Ducrost, to whom their discovery was due, but who raised grave doubts as to the antiquity of the sepulchre.

In the *Revue Scientifique*, for July 22d, M. Parrot takes up the subject in an interesting paper,

describing, first, the characteristic appearances of cranial and dental syphilis, then those of three American skulls obtained from ancient cemeteries, and finally, with much minutiae, the teeth and maxillæ of a young person from a place of burial belonging to the Merovingian epoch, antecedent to the seventh century, and others with pieces of the cranium from excavations in the caverns of Lozere, and elsewhere, and undoubtedly of pre-historic date.

The well-known appearances of hereditary osseous syphilis were here unmistakably present. Upon the external face of one of the fragments—a portion of a parietal bone—there was a layer of new bony tissue, hard, porous, with a rounded border terminating abruptly at the healthy bone, made up of trabeculae, perpendicular to the surface beneath; in other words, having the characteristics of the osteophytes which are seen daily upon the skulls of children attacked with hereditary syphilis. In other specimens similar growths were observed, and several of the incisor teeth presented the unmistakable notching and grooving which belong only to syphilis. M. Parrot seems to have well established the antiquity of his specimens, giving his authority and the place of disinterment in each case. His usual accuracy of observation and his large experience in such cases are well known, and the appearances he describes are beyond all doubt those of syphilis. If all these facts remain undisputed, it is the most conclusive contribution to the literature of the subject which has yet been made. The existence of very ancient syphilis in America has long ago been demonstrated. The writer has seen ten years ago, at this very cemetery near Callao, from which one of M. Parrot's American specimens was taken, and which seems to be inexhaustible, a number of skulls showing evidences of syphilis. Dr. Jones, of New Orleans, has proved its presence among the mound-builders of North America. Numerous facts, as we have stated, establish its existence in most of the countries of Asia and Africa, but this seems to be the first clear demonstration of its prehistoric existence in Europe. We shall look with interest for corroborative evidence upon the subject.

THE MEDICAL PROFESSION AND ITS MORALITY.

The *Modern Review*, an English publication rarely seen in this country, lately had an article with the above title, in which Miss Cobbe, "a ruthless critic" indeed, makes a most outrageous and untruthful attack on the profession. In succeeding numbers of the *Review* Dr. Wm. B. Carpenter and "two members of the profession," and finally Dr. Blackwell, make replies, which, in their facts, are ample; but we must confess that as to style the assailant has a

vigorous English at command that is wanting in the defence. True it amounts almost to fretful vituperation such as Gail Hamilton uses in her "Spent Bullet," but it has all the siletto-like thrusts, the epigrammatic style that characterize Miss Dodge's nervous English.

The animus of the authoress is especially shown by the cant as to vivisection, vaccination, the Contagious Diseases Acts, and the attempted exclusion of women from the profession. All the venom that can be put into language is used in discussing these questions.

We are told that this dreadful profession is meddling, despotic, arrogant, and with the aid of a bullying medical press they are even dictating to parliament. They are "Modern Inquisitors," a "parvenu profession with the merits and demerits of the class."

Both authoress and editor endeavor to make it appear that the charges are not against the profession as a whole, but only some members of it. If anybody can draw any other inference than that the authoress means the great bulk of the 45,000 doctors of Britain, with comparatively few exceptions, we mistake the impressions produced by ordinary language. True, she is expressly indignant at the fashionable doctors of the great cities and of the health resorts, but her denunciations are too sweeping to apply to them alone. So, too, she excludes the greater crimes, murder, seduction, etc., but with such damning "if's" and "but's" that every doctor feels she smirches him by her touch.

The cruel slanders that the doctors' kindness is merely a part of their "stock in trade," that they spread a trail of cold and slimy doubt in their track, and the dark hint that their facilities for concealing crime are equal to those for committing it, so far transgress the daily experience of every one in the community, that we dismiss them as unworthy even of an attempt at refutation.

But what are the charges? They are five in number. First, that in our scientific enthusiasm we forget the patient and study the disease instead of curing it. She abhors the doctor who would "study patients to acquire science," but honors the physician who "studies science in order to cure his patients." The Lord help such logic! As if science, which is to be studied in order to cure patients, were not the result of previous study of the patients.

But, not only do the doctors experiment upon their patients in hospitals and even in private practice, but they add to the bodily anguish the "moral tortures of outraged modesty," lest Mr. Bob Sawyer and his ilk be disappointed. Moreover, both to keep their hands well "in," as well as to exact enormous fees, the surgeons operate needlessly, and she tells a pathetic story of a pair of most beautiful

eyes in a handsome head preserved by a refusal to be "relieved of one splendid orb," and pay \$400 for the loss. We leave such logic again with uplifted hands, for more serious charges lie beyond.

Secondly, the pecuniary interests of the patient are sacrificed to those of the profession. As evidence she points to the semi-charlatan recommendations of waters and wines and such rubbish; to the new remedies, which are "costly fads of medicine," and are as changeable as the fashions; to the reckless multiplication of expensive prescriptions and incidentally hints at an "*entente cordiale* between the doctor and the druggist." Most of these have really some food for thought. But the next point is even a more serious one. "How far do medical men generally, really, and honestly strive to cure their well-paying patients?" she asks. Of positive evidence she admits there is none, but again she uses damning "presumptions," and intimates a strong belief that at least the rich are kept ill and made to pay well for the luxury. Suppose a specific for gout, neuralgia, or dyspepsia were found, what welcome, she asks, would it receive from the medical profession? In answer we point to quinia in ague, to the iodide of potash and mercury in syphilis, and to her despised and abhorred vaccination in small-pox. She points out, it is true, that in thirty years the doctors have received for vaccinations some \$8,000,000 from the "rates" independently of private fees, and thus accounts for the "zealotry and cruelty wherewith this medical 'rite' is upheld." But we would ask in return what would have been the fees if small-pox had been let loose upon the community? Not less than \$50,000,000, and perhaps far beyond even that large sum.

But thirdly, we are a trades-union. Consultations are a mere formality or rather a "solemn farce," and when the farce is ended Dr. A., after eating an excellent luncheon in the house of mourning, pockets his magnificent fee, rides in luxury to the station, and reads on his way up to town a charming article on the intense sympathy of medical men. He "has told a shameful and cruel lie, and has taken money from the very victim of his falsehood." We ask with confidence her own question: "Let us, for heaven's sake, know where we stand. Will the doctors tell us the truth beside the sick-beds of our friends, or will they *not*?" and we answer unhesitatingly *they will and they do*.

The fling at coroners who may aid in covering up crimes committed by medical men is so little applicable in this country, and we believe is so utterly untrue in England, that it is not worth our consideration.

The fourth charge that the profession has been doubly treacherous to women in passing the Contagious Diseases Acts, and in endeavoring to exclude

them from the profession, is so trite a subject that we need not say a word about it.

Lastly, the profession is so aggressive, that give them a chance, and in two-score years or so the doctor will lord it over "birth, marriage, education, employment, sickness, and death," and on the heels of his certificate, attendance or sanction, a large fee will follow of course—in short, personal liberty will be gone and the community will be reduced to two classes—doctors and their helots.

The editor says at the close of the article: "It is not without a grave sense of responsibility that we publish the above article," on the ground forsooth that the clergy and the lawyers have been criticised, but the doctors have escaped it (?!).

Besides the erroneousness of this contrast, we submit that the article as we have outlined it is not criticism, but calumny. Fair criticism we invite. Calumny we must and we do protest against and repel, both for our English brethren and ourselves.

PERFORATION OF THE BOWEL AND ITS TREATMENT.

WE have lately alluded to the proper surgical treatment of perityphlitis; of gunshot wounds of the abdomen, and also to the general question of the more radical *versus* the more conservative surgery of the abdomen. Allied to these topics is the question of the treatment of perforations of the bowel either in typhoid fever; from ulceration caused by foreign bodies in the cæcum or the appendix vermiformis; by fecal abscesses in the left groin, and other similar conditions. The tendency of the present day in the surgery of the extremities, on the one hand, is justly growing more conservative, as resections and osteotomies, mechanical treatment, and other similar procedures amply attest; but, on the other hand—and this tendency is unquestionably the right one—it is more and more towards radical treatment in the surgery of the abdomen, especially since our methods have so far improved as to make laparotomy one of the more successful instead of one of the most dangerous operations.

In the case in hand, where perforation has occurred, with escape of the contents of the bowel into the peritoneal cavity, what may we reasonably—nay, certainly—expect? Peritonitis, collapse, death, in from a few hours to a few days. Look at the forty-seven cases collected by Lewis in 1856 of abscess of the appendix vermiformis usually followed by perforation. Forty-six deaths! one recovery! Could any operation have been followed by a higher mortality?

In typhoid fever it may often be a question whether it is advisable to do any operation in view of the general condition of the patient. But even here an operation might sometimes be justifiable.

But in cases of perforation of the appendix, or of ulceration of the bowel—supposing that it may be ascertained with reasonable certainty—we believe that the abdomen should be opened, the matters that have escaped be removed as thoroughly as possible, the opening sewed up by a "purse-string suture," or otherwise according to circumstances, and that the patient will thus have a better, a far better, chance of recovery than if he be let alone. The latter course has but one termination; the former has a possibility, though a poor one, of two. Lewis asked the question in '56. We are just beginning to consider the answer after the lapse of a quarter of a century.

INHIBITION AND DYNAMOGENY.

WE owe these new observations on the nervous functions to Brown-Séquard. The terms will now be so largely employed that our readers, we doubt not, will be pleased to have some information about them.

By *inhibition* is meant an action by which an activity or a function is, suddenly or nearly suddenly, suspended and apparently annihilated.

The inhibitory faculty or property appertains to a great number of parts of the nervous system, and may be put in action in a direct or reflex manner. All of the activities, all of the normal or morbid properties of the central or peripheric nervous system, and consequently all the functions of this system may, perhaps, be inhibited. The irritability of contractile tissues may also be inhibited.

That which is true of inhibition is also true of *dynamogeny*, which means the power to make potential energy actual. Thus, to take an illustration from Brown-Séquard's experiments, irritation of a certain area of the skin, on the face usually, will cause an epileptiform seizure in those guinea pigs affected with the artificial malady. Such an area is *dynamogenic*, in that it possesses the power to so irritate the spasm centre as to make the potential energy there stored up take on an active phase.

The dynamogeny which is due to irritations of the skin, and of some parts of the nervous system in animals, may be made to attain a degree of activity six to ten times that of the normal state. In man the tactile sense may become dynamogenic to such a degree that the points of the æsthesiometer may be perceived on the back at a distance one hundred times less than the ordinary distance.

Inhibition and dynamogeny are in general produced simultaneously by the same irritation. The pretended motor centres in the encephalon may be inhibited or dynamogenic as other parts of the nervous system. The increase of strength of the spinal cord as a motor centre, and of other parts of the nervous system which contribute to the muscular sense, may attain to an enormous degree.

The phenomena of increase and diminution of force, the properties exhibited in Braidism and hypnotism, and the transfer of anæsthesia, also pertain to inhibition and dynamogeny.

THE TREATMENT OF CONSUMPTION BY ELECTRICITY.

ALTHOUGH not a new expedient, nor a novel application of an old one, Dr. Alavoine's method and its results deserve attention as additional proof of the efficacy of treatment which has, hitherto, attracted but little attention. He employs an induction current, and by means of it excites in turn the nerves engaged in the respiratory acts. He, also, stimulates the pneumogastric nerve, and thus lessens the action of the heart, and consequently diminishes pulmonary congestion. He applies a small olive-shaped metal electrode in the fossa behind the angle of the lower jaw, and a corresponding one over the pneumogastric near the sterno-clavicular articulation. Commencing with feeble currents, he continues the applications, slightly increasing their strength, for a quarter to a half hour. The immediate effect is a dilatation of the lungs, an increase in the depth and amplitude of the respiratory movements, and a diminution in their number. The expectoration is at first notably increased, after a while it lessens, and ultimately almost ceases, unless there is very extensive softening and destruction of the pulmonary tissue. At the same time the fever lessens, the respirations become more easy and deep, the condition of the blood improves, sleep is free from dyspnoea, nocturnal sweats disappear, the appetite returns, and the process of repair begins.

PROF. WHITTAKER'S LECTURE ON THE BACILLUS TUBERCULOSIS.

OUR readers have been more than usually delighted with the charming letters of J. T. W., our correspondent on the Continent, relating chiefly to Koch's recent discovery of the alleged bacillus of tuberculosis. Prof. Whittaker—of whom our Cincinnati friends may well be proud—reached this country a few days ago, and on last Monday, at the invitation of the College of Physicians of Philadelphia, he delivered a lecture on Koch's discovery, at the Hall of the College, before a large and interested audience consisting, to a great extent, of leading men of the profession. Dr. Whittaker not only gave in some detail Koch's methods, but also placed under five microscopes several slides illustrating the results—especially the bacillus of milz-brand, of perlsucht, and of tuberculosis. The lecture was admirably given, and our readers who did not have the rare treat of a personal hearing, will have the pleasure of perusing its substance in our columns next week.

The unanimous "aye" which responded to Prof.

S. D. Gross's motion for a hearty vote of thanks, was but the expression of the feelings of all present.

THE NAVAL MUSEUM OF HYGIENE.

SURGEON-GENERAL WALES, of the Navy, has organized a "Museum of Hygiene," which has, it appears, been made the "permanent central repository" of the American Public Health Association. Singularly enough, in a museum of hygiene under the control of a naval bureau, we find almost no provision for naval hygiene. One of the classes (19) is water transportation, one (39) marine architecture, and one (37) hospital ships, but these do not embrace the great and important subject of the health of seamen. Soils, sewage, water-supply of towns, factories, hotels, etc., are subjects to which the museum is to be devoted, and many others equally foreign to the naval service. The museum of hygiene is commendable enough, but, surely, it ought to have a special direction, since Congress has authorized its establishment by the Bureau of Medicine and Surgery of the Navy. If a repository of the Public Health Association, it should, also, illustrate all the conditions of naval hygiene.

THE EASY PREPARATION OF CATGUT LIGATURES.

WHETHER one pins one's faith to the antiseptic system or not, the use of catgut ligatures is so important and so general that we call attention anew to the simple and easy method of preparation which Mr. Lister introduced and published last year. Any doctor can prepare them for himself within a couple of days, and keep them constantly on hand.

Add one part of chromic acid and 200 parts of carbolic acid to 4000 parts of water. To this mixture (as it undergoes change in a short time) add immediately 200 parts of catgut of suitable thickness. After soaking for forty-eight hours, dry the catgut and place it in a mixture of carbolic acid and sweet oil, a drachm and a half to the ounce (1 to 5), in which it may be kept indefinitely.

RELATION OF ATOMIC WEIGHT TO TOXIC ACTIVITY.

RICHEL has conducted an elaborate research on the metals of the alkalis, to determine whether there is a relation, as has been supposed, between the atomic weight and the toxic power.

To determine with precision the lethal dose, Richet employed the same species of animal, administered the quantity with regard to the weight of the animal, and injected the solution under the skin and not into the blood. He found that in the series of alkaline metals there was no relation between the atomic weight of the metals and their physiological activity. Thus rubidium, which has a high atomic weight (80), is much less active than sodium, which is much lower (23).

SOCIETY PROCEEDINGS.

CANADA MEDICAL ASSOCIATION.

Fifteenth Annual Meeting, held at Toronto, September 6, 7, and 8, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE Fifteenth Annual Meeting of this Association was opened in the City Hall, Toronto, on Sept. 6th, under the presidency of PROF. FENWICK, of Montreal.

The Chairman of the Committee of Arrangements, DR. CANNIFF, welcomed the Association to the city, and announced that the programme which had been made out was ready for distribution.

The minutes of the previous meeting were read by the General Secretary, DR. OSLER.

Dr. Elsberg, of New York; Dr. Walker, of Detroit; Dr. Goodwillie, of New York; Dr. Lough, of Bermuda; and Dr. Field, of Barbadoes, were elected members by invitation. Dr. Brodie, of Detroit, was present as delegate from the American Medical Association. The

REPORTS OF THE VARIOUS COMMITTEES

were then taken up. On *Necrology*, by DR. FULTON, who presented a list of the members who had gone to their last resting-place since the previous meeting. On *Medicine*, by DR. GRAHAM. The chief topics touched upon were the International Medical Congress and its results, and the discovery by Dr. Koch of the bacillus of tuberculosis. At this point

DR. W. B. CARPENTER, OF LONDON,

entered and was enthusiastically received. On the motion of DR. ADAM WRIGHT, he was elected an honorary member.

At the request of the President, DR. CARPENTER addressed the meeting on the subject of

ZYMOTIC DISEASES AND VITAL STATISTICS.

The following is an abstract of his remarks: He emphasized the advantages of a strictly uniform system of taking statistics, such as prevailed in Great Britain. The system of tabulating had been inaugurated by Dr. Farr, to whom they owed much in connection with this subject. He paid a high tribute to the labors of this gentleman. Sir John Pringle's treatise he regarded also as of very great value, and one of the earliest to call attention to the group of zymotic diseases. Sir John had been connected with the army, and wrote a book on diseases of the army, and also a treatise on fermentation. The speaker then referred to the possibility of the transmutation of certain of these affections. Some examples were given. At the conclusion of the rebellion of 1745 a number of the troops were shipped off in little brigs. Some of the men were suffering under the mild autumnal fever. The brigs knocked about for six weeks, and for part of the time the men were enclosed under hatches without ventilation. In consequence of the unsanitary conditions the fever changed by the process above referred to into a malignant typhus. They landed, and the disease spread among the villages in which the men located. Another instance had come under his observation of the malarious fever of the west coast of Africa changing under similar conditions into yellow fever of a contagious character. The men suffering from a milder fever had been brought under the influence of bilge water in the vessels, and the result was the transmutation of the mild fever into malignant yellow fever. Dr. McWilliam and others had reported similar cases of convertibility of these kinds of fever. No general doctrine, he said, could be right that did not take into account these cases of transmutation, because the evidence of such

cases was beyond dispute. When he was in Edinburgh he had a conversation with Sir Robert Christison, whose clinical clerk he had been forty-five years ago, and that gentleman had expressed the opinion that no distinct line could be drawn between certain kinds of fever. In his practice in Edinburgh Sir Robert had found cases of variation and transmutation of the nature he had been referring to. Before ever Darwin's views were laid before the world, and quite apart from theory, he (Dr. Carpenter) and other medical gentlemen with whom he had discussed the subject had held decided opinions regarding the variation and convertibility of disease. The medium in which germs are developed had been found to alter in a very great degree the nature of the disease resulting. For example, when the germs were developed in a subject predisposed in any way, the nature of the disease was very different from that produced from the same germs in a subject not so predisposed.

The rate of mortality from non-zymotic diseases was practically the same in town and country and in towns of different characters. The annual mortality from zymotic diseases in London, with a population, taking in Croyden and the whole metropolitan area, of about 5,000,000, was not more than 15 or 16 in the thousand. In other cities and towns the rate was much higher, arising from the fact that in these latter places sanitary reforms and means of preventing disease from transmutation into malignant type were not properly attended to. In a certain place of industry fine-looking houses were built on a foundation of chalk, and the sanitary condition of the locality was brought before the Board of Health. The chalk had become saturated, and the Board recommended thorough drainage. A dispute arose. The place was divided into a clean and dirty party. The latter party prevailed, and drainage was deferred. The consequence was an outbreak of cholera of the most malignant type, which he had no doubt would have been prevented by proper means. He was of opinion that the late illness of the Prince of Wales had done a great deal to introduce sanitary reform in England. Vital statistics proved of the utmost importance in showing the causes and conditions of these malignant outbreaks and the conversion of mild into severe types of disease.

Dr. Carpenter next spoke on the subject of smallpox. During late years he had had occasion to fight the opinions of anti-vaccinators. The recent outbreak of smallpox on the continent of Europe was of a singular character. It had not before been epidemic since the middle of the last century. Since 1871 in London the mortality of the non-vaccinated had risen as high as 45 or more per cent. In the year 1612 the old form of black smallpox had devastated the whole of Europe, and the mortality had been as great as in the case of the plague—in many cases death occurred before the eruption came out, the patients dying from hemorrhage under the skin and in the bowels. Against this malignant type inoculation of a milder type had been successfully tried as a means of protection. As to the origin of this malignant type, he had not the least doubt it arose from overcrowding of the soldiers in the French military habitations. It was proved beyond doubt that thorough vaccination and proper sanitary measures were the best possible protection against a malignant type of smallpox. No child properly vaccinated had ever been afflicted with anything but a mild type.

A matter of great importance was the using of proper vaccine virus. There was no doubt it became eventually deteriorated by transmission through the human body, and the results were not always satisfactory. When properly cultivated and taken directly from the cow the effect was quite different. When the

great epidemic visited San Francisco the public seemed thoroughly frightened. The municipal authorities enacted that all the school children should be vaccinated. This was done with good results, and notwithstanding the unfavorable habits of the Chinese in the course of a few weeks, by isolation and vaccination, the epidemic had been brought under control.

In the Baltimore poorhouse in 1849 he had heard of a remarkable result of the adoption of proper sanitary measures. The site of the poorhouse had been selected for its salubrity. When the cholera prevailed all around, there were very few cases in Baltimore. But strange to say there was a great outbreak in the poorhouse. Forty or fifty cases occurred every day, and many were fatal. The Board was summoned in great haste, and there was something approaching a panic. One member, more sagacious than the rest, examined behind one of the walls, and found a rank marsh overgrown with grass. Into this marsh all the excreta was drained. All those located on the side next the marsh became ill first, and the mortality was great. The marsh was immediately drained, scoured, and covered with lime. The next day there were very few fresh cases, and on the third day there were none at all. At a meeting of clergymen he had expressed the opinion that in former times an epidemic of this kind was regarded as a visitation of some deity. Such a case as that referred to, was no doubt an infraction of law, but would a remedy have been effected if all the people of Baltimore had gone down on their knees for a week? To the medical profession these remedies were entirely due, notwithstanding that they were in introducing these preventive measures, acting directly against their own interests.

DR. SWEETLAND, of Ottawa, moved a vote of thanks to Dr. Carpenter for the very able address he had delivered. He thought the remarks of Dr. Carpenter should be put into effect, by pressing upon the Government the establishment of a bureau of statistics for the proper registration of zymotic and non-zymotic diseases, so that proper sanitary steps might be taken in cases where such steps might be considered likely to be of advantage.

The vote of thanks was seconded by DR. OLDRIGHT, and very heartily acquiesced in by the members present.

DR. OLDRIGHT desired to know what was done in the matter of health statistics in Britain, the connection of wells and sewage, and the isolation of contagious diseases.

DR. PLAYTER suggested that the matter be delayed, as the time at present was too short to enter into the subject.

A number of new members were elected, and the meeting adjourned to meet at 4 P.M. in sections.

The afternoon and evening sessions were devoted to work in Medical and Surgical Sections.

AFTERNOON SESSION.—MEDICAL SECTION.

DR. McDONALD, of Hamilton, *Chairman*. DR. STEWART, of Brucefield, Ont., *Secretary*.

ECHINOCOCCUS DISEASE IN AMERICA.

DR. OSLER communicated the results of an inquiry into the prevalence of the affection on this continent, and stated that he had been able to collect from the journals and private sources 61 instances. Drs. Temple and Graham each narrated a case.

AXIS TRACTION AND TARNIER'S FORCEPS.

DR. CAMERON, of Montreal, read an elaborate paper on this subject, illustrated by diagrams, etc. The head followed the axis, and the problem to be solved was the best means of assisting nature. Some advocated traction, some leverage, some compression, others a

judicious combination. He exhibited different specimens of the forceps, and explained the difference between the *vis a tergo* exerted by nature and the *vis a fronte* of the forceps. There were three kinds of forceps, the straight, the pelvic curved, and the curved with detractors of Tarnier. The advantage of the straight forceps was that they did not interfere with the natural rotation of the head, but a great disadvantage was that when the head was high up the instrument could not fail to come in contact with the coccyx. There was also the liability to slip and injure the perineum and soft parts. The curved forceps were less liable to slip, but the line of traction was not in the axis of the pelvis, and if the instrument was so adjusted as to bring the line of traction right, it would be sure to come in contact either with symphysis pubis or the sacrum. To combine the advantages of these two kinds of instruments and eliminate their disadvantages, Tarnier had invented his double detractor, which had the advantage of action along the traction axis and at the same time permitting the natural rotation of head. The objections urged against Tarnier's instrument was its clumsiness and cost and the danger of injuring the internal cavity.

DR. HOLMES, Chatham, said he had been accustomed to use the forceps in the manner recommended by Dr. Albert Smith, both as a lever and as a detractor. He also found it advantageous to advise the woman to abstain from direct pressure, and he had thus been enabled to avoid laceration.

DR. TEMPLE remarked that he was not prepared to concede all said in favor of Tarnier's forceps; they have not had sufficient use for their universal adoption in all cases; they are expensive, cumbersome, complicated and difficult to keep clean; the only advantage he thought they have over the double curved long forceps is in posterior occipital positions; in this position their traction is very similar to the long straight forceps, which are much more easy of application in this position than the curved forceps and less liable to slip. He was much in favor of simplicity in obstetric forceps.

DR. STEWART, of Brucefield, could not see the advantage of Tarnier's forceps over the older forms. He had seen in Vienna cases of rupture of the vagina and death after the use of this instrument.

THE USE OF THE UTERINE SCOOP IN INEVITABLE ABORTION.

DR. ALLOWAY, of Montreal, gave his experience of the use of this instrument in 20 cases. He strongly recommended its use instead of the placental forceps. He criticised at length certain of the views on the treatment of abortion.

DR. TYE, of Chatham, said he really thought they were passing through the iron age in the matter of obstetrics. After seeing all the forceps and scoops and other iron instruments, he really congratulated himself that he was not a woman. In his practice he relied chiefly on the instruments provided by nature, and he found them very suitable.

DR. RODGER, of Montreal, while he disapproved of undue multiplicity and complication of instruments, yet thought that the valuable assistance rendered by them could not be overlooked. He spoke in favor of the tampon and placental forceps in abortion. After their use, and twenty-four hours' plugging of the os, matters were found in a satisfactory condition.

EVENING SESSION.

At the opening of the evening session, the PRESIDENT delivered

THE ANNUAL ADDRESS.

He thanked the Association for the high honor they had done him by electing him to preside. He referred

to the importance of the Association and the important and responsible position held by the honorable medical practitioner. He explained the mode adopted by the Association for the transaction of business and the spirit in which the work of the different sections should be carried on. It was an important matter to meet together and compare notes on matters relating to their profession. He spoke of the important functions performed by the British Medical Association, and said they might look to that Association for an example of what the Canadian Association might be, and the important work within its scope. He traced the history of the Medical Association, and gave it as his opinion that they might have been celebrating their jubilee, as the British Association was now doing, had it not been for the disagreement which at one time marked the proceedings of the Association and interrupted its existence. He hoped harmony would now exist, and that the work of the Association would ameliorate the status of the profession in Canada. He dwelt at some length on the subject of sanitary legislation, which was now so much attended to in Britain. He hoped the same attention would soon be devoted to the subject at Ottawa. The sum of \$10,000 had been placed at the disposal of the Minister of Agriculture for the collection of statistics. But unless the matter received the approval and support of the medical profession throughout the Dominion this sum would do little towards obtaining reliable information. He thought operations of collecting statistics should be limited at the outset to certain cities to prevent failure, and a committee should confer with the authorities at Ottawa. The committee appointed at the last meeting should be desired to continue their work.

SURGICAL SECTION.

DR. GRANT, of Ottawa, *Chairman*. DR. ROSS, JR., of Toronto, *Secretary*.

SPASMODIC TORTICOLLIS.

DR. RODDICK, of Montreal, exhibited a patient who had suffered for many months with a very painful spasmodic contraction of the muscles of one side of the neck. The man was obliged to hold his head in his hands if he wished to keep it steady, and this was only temporary. Electricity and many other remedies were tried in vain, and Dr. Roddick divided some of the muscles subcutaneously with but little benefit. The actual cautery was applied on several occasions to the back of the neck with the most satisfactory result. The man recovered completely.

REST AND TRACHEOTOMY.

DR. MAJOR, of Montreal, advocated rest in all diseases of the throat, and rather denied the harm sometimes attributed to over-rest, claiming that (unless under tracheotomy) perfect rest was not attainable in the larynx, as the function of respiration had to be carried on even if that of phonation were suppressed. He reported results in cancerous disease of larynx and laryngo-pharynx, and held that the rest secured by operative or other means certainly controlled development, diminished the suffering, and prolonged life. He placed on record certain glandular enlargements under the sterno-mastoid muscle as an early means of diagnosis in malignant disease of the larynx, and gave in support his experience of seven cases, also attesting to the absence of these glandular enlargements in chancroidal, syphilitic, or other disease of this organ. He also upheld rest in warty growths and in tuberculous disease, and reported a number of cases having direct bearing on this point. He recommended a gold canula, as his experience with this metal justified him in doing so—it was less liable to irritate, and was not so easily acted

upon by the secretions as silver; his notice was first attracted to gold as a substitute for silver, on finding that a gold plate which had lain in the trachea at its bifurcation for 113 days had not been acted upon. Gargles received a very warm denouncement, as a flagrant violation of the principle of rest was necessitated by their use. Dr. Major also explained the mechanical principle of gargling, and conclusively showed its uselessness as a means to the end for which it was intended.

DR. RYERSON entirely agreed with Dr. Major in regard to the value of rest in laryngeal troubles.

DR. ELSBERG, of New York, said he held that it was the duty of those who devoted themselves to special subjects to give the results of their special knowledge to their brother practitioners. He had some years ago had his attention drawn to the fact that the principle of rest in cases of inflammation applied to the throat as well as to any other part of the body. Under the influence of rest inflammatory conditions subsided, and perhaps gave way to renewed action. The larynx was moved in three functions, namely, in the production of voice, in breathing, and in swallowing. The first was a voluntary action, and it was possible therefore to secure complete rest. Breathing, though absolutely necessary for life, might be made easier, and by tracheotomy the larynx might be relieved from active participation in respiration. Was it advisable to practise tracheotomy for this purpose? He did not share in the opinion that it was a simple or harmless operation, but he considered it was valuable in appropriate cases. With regard to the third function, swallowing, tracheotomy did not afford complete rest, but other means might be taken to give partial rest.

CERVICAL RIBS.

DR. SHEPHERD, of Montreal, read a paper on three specimens of this anatomical peculiarity. Two of them were exhibited to the Section. He also demonstrated his method of strapping "caked" breast.

ECZEMA OF THE NIPPLE AND CANCER OF THE BREAST.

DR. GRANT, of Ottawa, read the notes of a case of this kind, and referred to Sir James Paget's observations, which had proved a connection between this affection and the development of breast cancer.

SECOND DAY.—SEPTEMBER 7TH.

GENERAL SESSION.—After routine business, the

REPORTS OF COMMITTEES

were proceeded with.

DR. FRANCIS J. SHEPHERD, of Montreal, presented the report on *Surgery*. He said that he merely intended to glance at a few of the more important advances made in surgery during the last twelve months in such a manner as to excite discussion. He first referred to the great advances made in the treatment of wounds, and said all surgeons aimed at antisepticism, and that Listerism was only a phase of this. Dr. Shepherd advocated the dry form of dressing wounds, and gave his own method of dressing wounds with iodoform and boracic cotton. The theories as to the cause of inflammation were then touched on, and an account given of Dr. Hamilton's experiments with sponge-grafting. He also alluded to the wonderful success of Dr. MacEwen and Mr. McNamara in osteotomy. He then remarked that no organ was considered sacred by the surgeon, and spoke of the success that has attended the operations of nephrectomy. The treatment of club-foot was alluded to, and the opinion of the members asked as to the advisability of tenotomy. The report concluded with an account of the late improvements in the treatment of the joints, and the question of excising joints for joint disease discussed.

The report elicited a full and animated discussion chiefly on the merits of the spray. Drs. Kingston, of Montreal, Canniff, of Toronto, and Brodie, of Detroit, agreeing with the reader of the report in its general inutility, while Drs. Roddick and Stewart and the President spoke strongly in favor of the full Listerian plan of treatment.

The report on *Therapeutics* was read by DR. TYE, of Chatham, Ontario. It dealt largely with the use of electricity in various affections, and the influence of different kinds of currents. In referring to the large number of new pharmaceutical preparations which had been introduced, he thought the majority of them were more beneficial to the manufacturer than to the patient.

DR. CANNIFF presented an elaborate report of the committee appointed at the Halifax meeting to seek from the government improved legislation in respect to sanitation and vital statistics. It was arranged that the committee should meet and draw up resolutions to be communicated to the Premier.

The meeting then resolved itself into Sections.

MEDICAL SECTION.

A PECULIAR FORM OF FEVER.

DR. HARRISON, of Selkirk, Ont., read a paper descriptive of four unusual cases which presented the following features: The disease came on insidiously, as a remittent fever, with slight tenderness of the bowels, hemorrhage from the nose, pain in the head and back of the neck; changed to intermittent of the quotidian or tertian type; was entirely beyond the influence of quinia, was complicated with strabismus, arching of the neck, painful contraction of the muscles in various parts so as to cause screaming or sudden piercing shrieks; ran a course of from four to fourteen weeks, two of the patients dying, one in the thirteenth the other in the tenth week. No autopsy.

In the discussion which followed, most of the speakers regarded it as a form of cerebro-spinal fever. Drs. Holmes and Tye, of Chatham, referred to similar cases.

DIPHTHERIA.

DR. MULLIN, of Hamilton, Ont., reported two cases of diphtheria—one of diphtheritic croup, in which tracheotomy was followed by a successful result; in the other the membrane appeared on the left tonsil and uvula, and the case ended fatally through septicæmia. He referred to considerations showing that it was a constitutional disease, and that local applications could not remove it.

CHOLERA INFANTUM.

DR. HOLMES, of Chatham, Ont., read a paper on cholera infantum, from which the following conclusions were deduced: 1. Secure for every child proper sanitary conditions. 2. Only resort to artificial feeding when no other course can be adopted. 3. When obliged to feed a child artificially, regulate in the strictest manner the quantity and quality of the food, and persist in none that experience shows to disagree. 4. Maintain the child's temperature at or near the normal, by means of cold sponging. 5. Avoid astringents and opiates. 6. Rely upon laxatives combined with very minute doses of hydrargyrum, frequently repeated. The importance of carrying out the fourth indication was considered very great.

NERVE-STRETCHING IN SCIATICA.

DR. STEWART, of Brucefield, Ontario, read the reports of three cases of sciatica and one of painful stump treated by stretching the sciatic nerve. One case of sciatica was cured and the remaining two greatly relieved. The result in the case of painful stump is also very satisfactory. It was shown by tracings taken

during the stretchings that ether has little or no effect, while chloroform has a marked influence in reducing the blood-pressure and rate of the pulse.

TUMOR OF FRONTAL BONE COMPRESSING THE BRAIN.

DR. PREVOST, of Ottawa, reported the case of a man, aged 48, with a tumor projecting from the frontal bone on right side. It had produced exophthalmos, but very little cerebral disturbance. Coma and death ultimately supervened. The tumor had pushed back the dura mater and compressed the frontal lobe to a considerable extent.

DR. CAMERON, of Toronto, exhibited a boy with

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS,

and commented upon the general features of the disease. He called special attention to the mode of arising from a kneeling or recumbent posture, which was very well exemplified in his patient.

DR. TEMPLE, of Toronto, mentioned a case of this disease occurring in a man aged 64.

ECHINOCOCCUS OF LIVER, BURSTING INTO LUNG.

DR. BLACK, of Uxbridge, read the notes of the case. The patient, a clergyman, had had an hepatic tumor for over four years. It had been tapped, and the diagnosis of a hydatid cyst made. Latterly septic symptoms supervened, and the spleen became greatly enlarged. Death was caused by bursting of the cyst into the lung, with the discharge of a quantity of pus. A large suppurating hydatid cyst was found in the liver; it had burst through the diaphragm. A huge single cyst existed in the spleen.

PHANTOM PREGNANCY.

DR. H. P. WRIGHT, of Ottawa, reported the case of a middle-aged woman who had borne two children; believed herself to be pregnant; thought she had quickened; and a month after the time she expected to be confined, presented an abdominal tumor and peculiar movements which simulated somewhat those of a child. It was thought at first that there might be an ovarian tumor; but on putting the patient under ether, the true nature of the case became evident.

CHEMICAL COMPOSITION OF THE MILK OF DISTILLERY-FED COWS.

DR. ELLIS, of the School of Practical Science, Toronto, together with Prof. Croft, had examined the milk of sixteen cows—eight of which were fed on distillery refuse and hay, and eight upon other kinds of food. No distinction could be made between the two classes of milk by microscopical observation, and no difference was observed as to keeping qualities. The specific gravity of the milk of the distillery-fed cows averaged 1.029, and in one case fell as low as 1.025. The specific gravity of the milk of the other cows averaged 1.032. In the milk from distillery-fed cows, the total solids averaged 14.64 per cent., and reached in one case 17.96 per cent. In the other milk the average was 12.82 per cent. The excess of solids in the distillery-fed cows is owing to an increased quantity of fat, which averaged 5.50 per cent. in the distillery-fed cows, and reached in one case 8.49 per cent. In the other cases the fat averaged 3.27 per cent.

HALIFAX AS A SUMMER RESORT.

DR. SLAYTER presented a paper showing the advantages of this city as a summer residence. The thermometer shows that in July and August, while the inland and more southern cities are liable to excessive heats, Halifax enjoys cool breezes and a very moderate temperature. The mean average temperature for July and August, during 1879-'80-'81, has been as follows: July, 61.36°, 64.83°, 61.53°; August, 61.53°, 63.03°, 64.41°.

With the exception of rheumatism, the author has observed a decided benefit in the majority of cases sent to the city during these months.

SURGICAL SECTION.

The section met at 3 P.M., DR. GRANT in the chair.

OBSTRUCTION IN THE AIR-PASSAGES.

DR. KINGSTON, of Montreal, related cases illustrating the effects of foreign bodies in the trachea and bronchi. The two most remarkable instances, viz., false tooth in the windpipe for over three months, and a pin in the trachea for eleven months, have already been referred to in the NEWS of January 21, 1882.

POLYPOID FIBROMA OF THE BLADDER.

DR. FULLER, of Toronto, described the case, which occurred in a child one year and eight months old. Symptoms of stone were present, but nothing was discovered with the sound. Pus occurred in the urine. The child died suddenly from rupture of the bladder. The specimen was shown to the Section.

POLYPUS NASI.

DR. RYERSON, of Toronto, strongly urged the use of glacial acetic acid in these tumors, and preferred the snare to the forceps.

MODERN LITHOTRITY.

DR. WALKER, of Detroit, gave an account of several cases, with a summary of the advantages of this method of operation.

NEW OPERATION FOR HARELIP.

DR. GOODWILLIE, of New York, showed an instrument for keeping the parts together, and advised the operation immediately after birth.

AFFECTIONS OF THE ORBIT AND FRONTAL SINUS.

DR. REEVE, of Toronto, exhibited a series of photographs and specimens illustrating these affections.

EXCISION OF THE KNEE.

DR. FENWICK, of Montreal, showed a series of photographs and specimens, illustrating his last series of excision cases. Of twenty-six excisions of the knee in the Montreal General Hospital, two had died, and in two cases subsequent operation was required. One of the deaths was due directly to heart disease.

ECZEMA TREATED WITH VIOLA TRICOLOR, OR WILD PANSY.

DR. FERGUSSON reported three cases successfully treated by the internal administration of this drug.

DR. J. H. CAMERON showed three cases to the Section. A man whose thigh had been dislocated backwards, and the ilium fractured six months ago. He was still lame, and it was thought that the dislocation had never been reduced. The second case was one of ununited fracture of the femur. The third, a girl aged 20, with an enormous recurrent tumor of the upper jaw.

A paper by DR. MILLS, of Montreal, on

"MISTAKES TO BE AVOIDED IN TREATMENT OF AFFECTIONS OF THE NOSE AND THROAT," was taken as read.

THIRD DAY.—SEPTEMBER 8TH.

After routine business, DR. WORTHINGTON, of Clinton, Ontario, read a paper on

CLIMATOLOGY,

dealing chiefly with the subject of malaria in the Ontario peninsula. In the portion of the province bordering upon Lake Erie, the St. Clair district, and the southern end of Lake Huron, malaria still abounds,

but the general opinion, obtained in answer to certain queries, is that it has lessened with the increased cultivation and better drainage. The poison seems more active after July, and a long dry period after a wet one renders it particularly prevalent.

It was suggested that, in addition to more thorough drainage and the removal of superfluous dams in the streams, the eucalyptus tree might be planted in certain districts.

In the discussion which followed, DR. McDONALD, of Hamilton, referred to the general decrease of the disease with the better cultivation of the land. It had occurred every year in Hamilton for the past thirty years.

DR. OSLER referred to the increase of the affection in certain districts which had been hitherto almost free from it, or in which it had not been seen for some years. He believed it was spreading in the New England States and in parts of New York, about Montreal and in the city, where malaria is almost unknown, cases originating in the district had become more frequent.

THE REPORT OF THE SPECIAL COMMITTEE ON SANITATION AND VITAL STATISTICS

was then read by DR. CANNIFF.

The following resolutions were adopted:

1. That for the present the sanitary statistics shall be confined to the cities and larger towns of the Dominion, such to be published monthly, and the deductions therefrom to be circulated in the various centres specified.
2. That for future guidance in sanitary matters a commission should be appointed by the Dominion government, in order, in consultation and co-operation with the various local governments, to arrive at some common basis of action in carrying out such sanitary measures as may be necessary for the guidance of the Dominion government.
3. That such commission shall consist of at least two or more medical men with a legal adviser, whose duty it shall be to examine carefully into the various requirements of such action in sanitary matters.

The Nominating Committee reported the following

OFFICERS FOR THE ENSUING YEAR:

President, DR. MULLEN, of Hamilton.

Vice-Presidents, for Ontario, DR. TYE, of Chatham; for Quebec, DR. GIBSON, of Cowansville; for New Brunswick, DR. ATHERTON, of Fredericton; for Nova Scotia, DR. JENNINGS, of Halifax; for Manitoba, DR. KERR, of Winnipeg.

General Secretary, DR. OSLER, of Montreal.

Treasurer, DR. ROBILLARD, of Montreal.

Local Secretaries, for Ontario, DR. SAUNDERS, of Kingston; for Quebec, DR. BRUNELLE, of Montreal; for New Brunswick, DR. COLEMAN; for Nova Scotia, DR. ALMON, JR.; for Manitoba, DR. WHITEFORD.

The report was adopted and the nominees were duly elected. In the

MUSEUM

DR. SUTHERLAND exhibited a series of twelve specimens illustrating some of the *Modes of Termination of Aneurism*.

DR. OSLER exhibited slides of the *Bacillus of Anthrax*, and the *Bacillus of Tuberculosis*.

DR. GRAHAM exhibited slides of *Koch's Tubercle Bacillus* and *Ponfick's Actinomycosis*.

After the usual vote of thanks, etc., the meeting adjourned at 12.30.

The members of the Association were entertained by the Toronto profession at a conversazione on Thursday, and on Friday afternoon Dr. Clark gave a luncheon at the Asylum for the Insane.

The next place of meeting is fixed for Kingston, Ontario, on the first Wednesday of September, 1883.

MEDICAL SOCIETY OF VIRGINIA.

Thirteenth Annual Session, held at Fauquier White Sulphur Springs, September 13, 14, and 15, 1882.

(Specially reported for THE MEDICAL NEWS.)

FIRST DAY. AFTERNOON, SEPT. 13.—The Thirteenth Annual Session of the Medical Society of Virginia convened at 3.45 P. M., Wednesday, September 13, 1882, at Fauquier White Sulphur Springs, Va. Because of the illness of the *President*, Dr. G. WM. SEMPLE, of Hampton, Va., the *First Vice-President*, Dr. W. L. ROBINSON, of Danville, Va., assumed the chair. The *Recording Secretary*, DR. LANDON B. EDWARDS, of Richmond, was in place.

ADDRESS OF WELCOME.

DR. JOHN MCLHANEY, of Warrenton, President of the Fauquier County Medical Society, introduced HON. J. G. BROOKS, of Warrenton, who, on the part of the medical profession and citizens of that section of the State delivered an address, in which a cordial welcome was extended.

A LETTER FROM THE PRESIDENT

(Dr. Semple) was then read, in which he expressed his great disappointment and regret in that he was unable to attend, etc. This letter, on motion, was ordered to be published in the annual volume of *Transactions*, and a vote of sympathy was given by the Society.

Dr. John N. Mackenzie, of Baltimore, Md., was then introduced as a

FRATERNAL DELEGATE

from the Medical and Chirurgical Faculty of Maryland. He was invited to a seat in the body and to participate in the discussions that might come up during the session.

In the absence of all the members of the standing

COMMITTEE ON NOMINATIONS OF APPLICANTS FOR FELLOWSHIP

in the Society, the Chair appointed a committee of five to act in their stead. The committee *pro tem.* was composed of Drs. J. E. Chancellor, of Charlottesville; C. C. Conway, of Rapidan; John R. Wheat, of Richmond; G. Wm. Pollard, of Aylett, and Bedford Brown, of Alexandria. In a short while this committee reported favorably upon all the applications presented. [During the session forty or more new members were added—one of the largest additions to the membership of the Society during any one year for ten years.]

THE REPORT OF THE RECORDING SECRETARY

showed the receipt of the usual number of exchanges; the issue of two "certificates of fellowship;" the disclaiming of membership of another member; the dropping of two other members from the Register; the registration of two members who report themselves as over 70 years of age, and consequently no longer responsible for dues or assignments; the resignation of five members—three because they had removed from the State, and one who had retired from practice; one doctor should have been reported last year as having resigned; information of the deaths of only two Fellows during the year has been received. Present membership of the Society, including those who joined during this session, about 460.

On motion of Dr. S. K. JACKSON, of Norfolk, a committee of five was ordered to be appointed to express the sense of this Society in regard to the action of the New York Medical Society during its last session which relates to the change of the

CODE OF ETHICS

of the American Medical Association, and which proposed change admits of consultation on the part of regular practitioners with irregulars. The acting President appointed Drs. S. K. Jackson, M. L. James, of Richmond; O. H. Baird, of Waverly; Wm. D. Cooper, of Morrisville; and M. A. Ish, of Neabsco Mills; with instructions to report to-morrow morning. The

REPORT OF THE NECROLOGICAL COMMITTEE

was then presented by letter from the Chairman of the Committee, Dr. John S. Apperson, of Town House. The report was referred, without reading, to the Committee on Publications.

MISCELLANEOUS BUSINESS.

DR. JOSEPH A. WHITE, of Richmond, offered a resolution requiring the attendance of every member at the session at which he may be elected to any office in the gift of the Society. This suggestion awakened a lively discussion, and, after a lengthy debate, it was agreed that a vote should be taken on the subject to-morrow morning, without further remarks.

On motion, a committee of thirteen Fellows was ordered to be appointed at once to nominate officers—other than the President and Assistant Recording Secretary—for the ensuing year.

The Society then adjourned until 8 P. M.

EVENING SESSION.—SEPTEMBER 13TH.

As soon as the meeting was called to order, the acting *President* (Dr. ROBINSON) made a few remarks as a substitute for the

PRESIDENT'S ADDRESS.

He greeted the members with a joy born of twelve months' pleasurable anticipation. To those either too careless to investigate, or too ignorant to appreciate, the advantages of sustaining a State Medical Society, he proffered his profound pity. The life of this Society meant sustenance of medical ethics, brotherly love, advancement by study and principle to the standard to which each one is eligible. In regard to other matters, he thought that Richmond was the best place for annual meetings, especially during the week of the usual annual agricultural fair, which occasion always attracts a large number of practitioners to that city, in company with the crowds of other citizens from all sections of this and adjoining States. Forbid banquets by the local societies. He favored the election of a President at the beginning of a session. He urged that papers read before a meeting should be discussed before reference to the Committee on Publication. The "Ex-President's Prize," as offered this year, is undoubtedly a step in the right direction. After a complimentary allusion to the worth of the President of this Society, and an expression of sympathy because of his present ill-health, which alone prevents his attendance, he closed by congratulating the doctors of this section because of the large additions made by them to the membership of this Society.

The reports of the Standing Committees on Progress in the various departments of medical science—the first presented (by the author) was the

REPORT OF THE COMMITTEE ON SURGERY, of which the following is an abstract:

DRAINAGE IN GUNSHOT WOUNDS.

DR. HUGH M. TAYLOR, of Richmond, Va., limited his report to a consideration of the value of drainage in gunshot wounds. He showed the important part which drainage plays in the treatment of all classes of wounds, by referring to the "open method," to Callen-

der's and Lister's methods; to the cotton-wool dressing of Guerin; to the dry-dressing of Gamgee, and to the sponge dressing, recently made prominent in this country by McClellan. In all of these most prominent methods of treating wounds, now in vogue, drainage is secured and forms the most important adjuvant. In a class of wounds, defined as contused and lacerated, in which sloughing, granulation, and cicatrization invariably occur, and in which there are many conditions to prevent free escape of inflammatory products, we must find free drainage of the greatest importance. The means of securing drainage, which he mentioned are position, incision, dilatation, rubber tubes, glass tubes, decalcified bone, strands of horse-hair and silk tents, canula, and such other agents as sponge, absorbent cotton, cotton-wool, etc., which exert capillary attraction.

After dwelling upon the local and constitutional good secured by drainage, the importance of drainage in gunshot wounds of special parts was considered. Few surgeons now question the advantage of treating suppuration in joints by free incision, drainage, and antiseptic washes. Penetrating gunshot wounds of the joints are invariably attended with suppuration, which should also be treated by free incisions, drainage, and antiseptic washes. In gunshot wounds of the extremities, we are taught the value of drainage by the good it effects in compound fractures of the extremities. In pyonephrosis and rupture of the kidney, the indications are clearly in favor of free incision, and the use of drainage-tubes, to evacuate collections of pus or urine; and the success which attends this treatment points clearly to the course to be pursued in gunshot wounds of the kidney. The early removal of blood, serum, pus, and urine is the keynote to the successful treatment of such wounds. In abscesses and cystic disease of the liver, more reliance is placed in aspiration, free incision, and drainage, and in gunshot wounds more reliance should be placed in free incision, drainage, and antiseptic washes. The mortality which follows gunshot wounds of the liver, treated upon the expectant or do-nothing plan, warrants a resort to active operative interference. The indications in favor of drainage in gunshot wounds of the bladder are too plain to admit of discussion. To prevent its consequences, such as pelvic cellulitis and peritonitis, nothing can take the place of drainage. In no gunshot wounds is drainage more important than in those of the head. To prevent compression by the retention of inflammatory products, to avoid blood-poisoning, and to encourage repair of the local injury, drainage is absolutely needed. No sutures and no plaster after penetrating gunshot wounds and after trephining should be used—only some light absorbent dressing.

The cases of penetrating gunshot wounds of the chest which recover, are the cases in which thorough drainage has been practised. No surgeon now thinks of hermetically closing a penetrating wound of the chest. On the contrary, we are instructed to keep the wound open—of course the most dependent, if there are two wounds; and even, if necessary, to make a free counter-dependent opening and introduce a drainage-tube. In empyema, great good is accomplished by aspiration, paracentesis, incisions, drainage-tubes, and flushing out the cavity; and the analogy between the consequences of gunshot wounds and empyema is too striking to be overlooked. In the loose cellular tissue of the mediastinum, suppuration is active and large collections of matter resulting in pyæmia and death is a frequent sequence of gunshot wounds of this region. If nature's efforts are found to be inadequate to the task of securing perfect drainage, they should be aided by incisions; and, if necessary, by the introduction of a drainage-tube. Rosenstein, of Leyden, has recently drained a suppur-

ating pericardium by means of a draining-tube. His case is unique, in that it is the first in which the pericardium has been opened and a drainage-tube introduced with the specific object of removing purulent fluids. The success of this case points clearly to the best treatment for penetrating gunshot wounds of the pericardium which are not immediately fatal. The value of drainage, in penetrating gunshot wounds of the belly, is attracting more attention than any subject connected with the treatment of gunshot wounds. Attention was first called to this subject by Dr. Hunter McGuire, of Richmond, Va., in 1873. Afterwards by Dr. Marion Sims, of New York, and again by Dr. McGuire in 1881, during the session of the American Medical Association. Over 92 per cent. of the patients operated upon for ovariectomy recover. Over 90 per cent. of gunshot wounds of the peritoneum die. In the former, and not in the latter, the importance of thorough drainage has been appreciated. Operative interference to repair the injury done and to secure perfect drainage is of the last importance in penetrating gunshot wounds of the belly.

The conclusions arrived at by the writer, are:

1. That union by primary adhesion is exceedingly exceptional in gunshot wounds.
2. That suppuration, granulation, and cicatrization, are invariably combined in the process of repair.
3. That extensive accumulations and burrowing of pus in a deep, narrow bullet track, are to be expected and feared.
4. That the deep, narrow, angular, and frequently obliterated track does not afford perfect drainage.
5. That in such cases the principles of surgery applicable to other deep-seated suppurations must be applied.
6. That position, incision, dilatation, drainage-tubes, and the other means mentioned, are of great importance in treating the consequences of gunshot wounds.
7. That, by nature's efforts, analogy, and reason, we are taught to think that their more frequent use will lead to better results in this class of injuries.
8. That the danger incident to their use is far outweighed by the benefit which accrues.

On motion, this paper was referred to the Committee on Publications, with authority to publish.

DISCUSSION.

DR. R. I. HICK's, of Casanova, remarked, in regard to gunshot wounds of the chest, that if Dr. Taylor meant that drainage-tubes should be introduced to anticipate any collections of noxious matters, he could not endorse the suggestion, because he had seen too many cases of gunshot wounds of the chest recover without any bad symptoms, upon the expectant plan. But he supposed that all surgeons of the present day agree that collections of pus or other offending matters should be evacuated, if practicable, wherever found. This principle is as old as the fathers of medicine.

He had also seen several wounds of the abdomen recover in like manner; and, even in these cases, interference should be withheld until it was ascertained that offending matters were either retained, or were in the act of formation. If formed, he entirely agreed as to the importance of early removal or evacuation—because under the non-interference plan in such cases, death almost inevitably results.

DR. J. E. CHANCELLOR, of Charlottesville, spoke of two cases met with in his practice bearing upon the point at issue. The first case he alluded to was that of a Confederate soldier, of high position, who, during one of the battles of the Confederate War, was wounded between the sixth and seventh ribs of the right side. The Minie-ball came out under the lower angle of the scapula of the same side of the body. There were ex-

pectionator of blood and the other usual signs of complete perforation of the lungs, the pleura and the chest walls. In a few days, pus formed; some was expectorated and some passed out through the wounds of entrance and exit; there was also some pleuritic effusion. This condition, of course, was attended by cough and dyspnoea. The soldier was brought to the hospital at the University of Virginia, of which Dr. James L. Cabell, Professor of Surgery in that institution, had charge. An opening was made with the knife along the lower border of the sixth rib, and eight or ten fluid ounces of pus were drawn off. After this operation, the patient fell into the hands of the reporter [Dr. Chancellor]. Carbolic washes of the wound—externally and by injections—were resorted to, and drainage by means of a gum catheter was adopted as the general line of treatment, with such supporting regimen as seemed required from time to time. In addition, treatment by position was followed out, so as to let either one or the other of the external wounds be dependent, so as to facilitate drainage. This plan of treatment was kept up for some weeks or two months, by which time restoration to health was rapidly advancing. The body was then noticed to be much "drawn" to the right side. Within a few months, however, the lungs were invaded by deposits, which appeared to be tuberculous, and the patient died. Still, the lesson learned from this case was "the value of drainage of gunshot wounds;" for the patient, after recovery from the wounds themselves, was able to ride about or go where he pleased; and while he did complain occasionally of "stitching pains" at the points of both wounds for some time afterwards, as well as "heavy pains" along the track of the wound through the lung, it was several months later that the tubercular trouble began. The doctor *knew* nothing about the history of consumption in the family of the patient.

The other case bearing on this subject, was that of a married lady, of some thirty years of age from Texas, who, ten years ago, while dancing one of the round dances, as she professed, had her right side too much compressed. She was not "well" at the time of her dancing; but being fond of the amusement, she danced immoderately, whenever opportunity offered. But soon after the special dance referred to, she had hepatitis, followed by an abscess of the liver, which "pointed" on the right side between the ninth and tenth ribs. An incision was made in the most dependent part, so as to evacuate the pus. After this, "a drainage position" was directed. Then a drainage-tube was inserted, but it did not act well; it became clogged too frequently to accomplish the ends in view. In studying how to promote the discharge of purulent matter from the cavity of the abscess, he determined to resort to properly applied compression. He adopted a specially prepared spring truss—the drainage-tube being frequently taken out for cleansing purposes, and re-inserted. This treatment was kept up for a month or more, under Dr. Chancellor's care, when she was sent to the Rockbridge Alum Springs, Va., where the resident physician, Dr. Saml. B. Morrison, followed out the same general line of treatment as had been pursued, chiefly, draining locally, and tonics internally. She recovered her health perfectly, so far as known, to this day.

DR. SAMUEL C. GLEAVES, of Wytheville, addressing Dr. Chancellor in regard to the last mentioned case.—"Was the drainage-plan of treatment the cause of the cure?"

DR. CHANCELLOR.—"Yes, I believe it was."

DR. GLEAVES.—"If the pointing abscess had simply been lanced sufficiently at the most dependent point, and the proper position of the patient been ordered and followed out by the nurse, would not sufficient drainage have been kept up?"

DR. CHANCELLOR.—"Yes; but with the carelessness of nurse, or disobedience of patient, it is impracticable to depend upon the exact following out of such instructions. Of course, you must be careful, under such circumstances, to keep the incision wound open."

DR. GLEAVES.—"What, then, is the use of the additional irritation caused by the insertion of a drainage-tube?"

DR. CHANCELLOR.—"I do not admit that the proper introduction of a properly devised drainage-tube causes improper irritation. It frequently happens that the very irritation caused by the gentle introduction of a draining-tube into a deep abscess of any part of the body creates exactly that kind of 'irritation' which is most desirable for repair of an indolent ulcer or abscess." In furtherance of these views, he mentioned the case of a man who was shot laterally in his knee-joint—the ball going through and through. Such cases generally end fatally, unless amputation of the thigh is undertaken; and even then many failures of success occur. In the case briefly reported by him, the drainage-tube plan of treatment was adopted, and the patient thoroughly recovered, with the exception that he left with an ankylosed knee. "Was that not better than having either an artificial limb, or an amputated thigh?"

DR. GLEAVES then referred to a case, some time ago under his charge, of abscess of the liver. After opening it, he could not get it to heal while pus was flowing from it, or while it was secreting.

A MEMBER.—"Of course not. Ought to have inserted drainage-tube, and thus have caused sufficient inflammatory irritation. Dr. Gleaves himself said, '*ubi fluxus, ibi irritatio*.' The flow ought to continue when there is no irritation, and for a stronger reason ought to continue while there is irritation of the abscess."

DR. TAYLOR, the author of the paper under discussion, referred to the autopsy of a case which had induced him to believe in drainage wherever there was deep-seated abscess, or even wherever a superficial one, of large size, with its external opening was constantly clogged up. He believed in drainage, especially in all major operations. If position or the patency of the opening would not permit proper drainage of the foul matter—whatever that matter might be—then establish a means artificially for free drainage. If the chimneys of a closed house do not carry off the poisonous effluvia of a house, then let the doors and windows be opened. So in regard to abscesses or poisonous effusions in the abdominal cavity. If the opening by the wound of entrance or exit is not sufficient to admit of drainage—the escape, indeed, of the poisonous secretion, whatever may be its character—then make an artificial opening intelligently, and keep in this wound a perfectly secure drainage-tube—whatever may be the kind or shape of the drainage-tube required for the special case under charge.

Under call for volunteer papers or reports, DR. HUGH T. NELSON, of Charlottesville, reported the following case of

URETHRAL STRICTURE OF TWENTY YEAR'S STANDING, IN WHICH PERFECT CURE OF THE LESION WAS AFFORDED BY THE VIS MEDICATRIX NATURÆ ALONE.

The case was one of unusual interest.

Mr. B., a country farmer, aged 63. He has had attacks of gonorrhoea in his younger days, and hence became the subject of retention of urine. He applied for treatment on May 4, 1882. He had had stricture of the urethra for twenty years, and had been under physicians of prominence previously, but no operation had ever been performed. On the day named, however, after continued and violent efforts at micturition, the

bladder had been emptied before the doctor saw him; he had suffered great pain for several hours, and had evidently only been relieved by the relaxation following upon intense vesical distention. A No. 5 bougie was introduced, passing, on its way to the bladder, through the cartilaginous strictures, one embracing nearly an inch of the urethral extent, the penis being very large, and seemingly œdematous. Mr. B., with considerable difficulty, managed to keep the bladder comfortably empty until the 9th, when complete occlusion of the urethra forced him to seek professional assistance. The No. 5 bougie was passed, but with great difficulty, from the contracted state of the stricture; and after the beak of the instrument had entered the bladder, the grasp of the stricture was so great as to prevent further introduction. The bougie was withdrawn with great difficulty, and a smaller catheter passed, which cut the urethra a little, but emptied the bladder perfectly and with great relief.

The patient now called attention to an enlargement in the corpus spongiosum; an examination of this showed at about the middle of this portion of the urethra, and consequently covered by the scrotal folds, something that appeared to be a fibroid growth, about the size of a pigeon-egg, and corresponding to the most undilatable of the strictures. He was seen daily for several days, and the bougie was used regularly with apparent improvement in the condition of the stricture. On the 13th he was so much relieved that he declined further treatment, and determined to return home on the 15th. About noon on the 14th, however, the doctor was summoned in haste, and found the old man suffering great pain, and straining violently in ineffectual efforts to empty the bladder. The scrotum was found enormously distended; its more superficial tissues were very much thickened and hardened. No fluctuation was detected, the absence of which, together with an entirely normal state of the *perineum*, made it highly probable that the condition was due to erysipelas of the superficial and deep tissues, though the possibility of urinary infiltration was not lost sight of. The bougie was passed with relief, and the ordinary treatment appropriate to an erysipelatous condition of the parts was instituted. On the morning of the 15th a large patch of gangrene occupied about three-fourths of the now enormously distended scrotum, from which the cuticle was entirely gone, and a fetid, sanious ooze escaped. Early on the 16th, there was no further extension of the gangrene, and a line of demarcation was visible; but the œdema was extending upon the pubis, the perineum still retaining its natural condition. On the evening of this day, Prof. J. S. Davis, of the University of Virginia, saw the patient in consultation, and gave, as his opinion, that the case was one of urinary infiltration, consequent upon rupture of the spongy urethra, and the diagnosis was immediately verified by the modified operation for *anterior perineal section*, which was performed by Dr. R. W. Nelson, of Charlottesville, Va. Over one pint of urine, and several ounces of pus escaped from the incision, and for several days urine dribbled from the wound, small quantities being also discharged from the meatus several times each day. Except on the two occasions mentioned there had never been perfect retention, and the urine, though passed in small quantities, had always seemed to reach a fair twenty-four hour average. A stimulant and tonic treatment was kept up; the large gangrenous mass sloughed away, exposing both testicles, which were covered by the tunica vaginalis alone; the amount of urine passed through the meatus continued to increase, accompanied by a corresponding diminution in the quantity which passed from the large wound. The granulations were most satisfactory,

and by the first of July both testicles were completely enveloped by a good healthy scrotum, accompanied, it is true, by retraction of the penile integument, which renders perfect erection impossible. The strictures are entirely relieved, and the urine is passed in a fuller stream than ever before, and this, although neither catheter or bougie was ever introduced into the urethra after the operation.

DR. NELSON, in connection with this subject, exhibited a

CATHETER BOUGIE,

as made and used by Dr. R. W. Nelson, of Charlottesville, Va., in cases of urethral relaxation and prostatic trouble, in which even the eye of a soft rubber catheter occasioned sometimes troublesome hemorrhage. The instrument is always introduced in its bougie form, then opened to empty the bladder, and *never* to be closed until *after* withdrawal.

After the reading of Dr. Nelson's paper, DR. GEO. B. JENNINGS, of Ruckersville, was requested to report, in full,

AN UNUSUAL CASE OF SLOUGHING OF THE PENIS AND SCROTUM,

and promised, by request of several members, to report in full, in writing to the *Transactions* of the Society for this session. The chief point of interest in the case was that of ulceration of the under portion of the penis and the major part of the scrotum, including the testicles, leaving several urethral sinuses or openings between the bladder and the mouth of the urethra.

After this report the meeting adjourned until 10 A.M., Thursday.

(To be continued.)

CORRESPONDENCE.

HYPODERMIC INJECTION OF WATER FOR THE RELIEF OF PAIN.

To the Editor of THE MEDICAL NEWS.

SIR: The case reported by Dr. S. J. Radcliffe in THE MEDICAL NEWS of September 2d, reminds one of a somewhat similar experience. In the year 1873 there came under my care, sent to me by a neighboring physician, a woman, between 45 and 50 years of age, widow, with sciatica. She said that she had been afflicted a long time, and had been treated by a number of physicians, all of whom had administered either opium or morphia, and that the one who had sent her to me, Dr. W., was the first one to use the hypodermic syringe. The woman seemed to suffer, and although she was a "spotted specimen" from previous punctures, I followed the same treatment, and "smote" her hip and thigh with the hypodermic, injecting the morphia solution daily, sometimes twice. For many days I continued this treatment, always with relief temporarily. Finally, it occurred to me to try a little deception, and give a hypodermic injection of water. I expected my patient would return that day for another dose, but she did not. The next morning I again used the distilled water, as it gave the desired relief, and continued these injections for about two weeks. Then I told "me leddy" that she was cured; that she did not need any more morphia; that I had been injecting water. Well, she just swore and tore around, and let fly at me from her sainted lips some choice appellations, which would show up too handsomely on paper, so I forbear. To persuade her to leave the office, I informed her that I would be under the necessity of calling in an officer. This had the desired effect. She went muttering something that sounded like "report you to the health officer" (I was district physician to

the Ninth Ward of this city then); "put you in the papers," etc. It was not long until I happened to see her in another physician's office; I told the gentleman, Dr. W. J., what I had done, and after that he tried the hypodermic water treatment for a few days until he was satisfied that the woman did not need the morphia, and discharged her, and, I believe, informing her, as I had done, of the watering process.

Respectfully,

R. D. MUSSEY.

N. W. CORNER FOURTH AND ELM STS., CINCINNATI,
September 14, 1882.

A SPLINT TO REPLACE THE STROMEYER.

To the Editor of THE MEDICAL NEWS.

SIR: The splint which I described in your issue of August 26 was made for me by Mr. Gemrig, in September, 1881, and, therefore, really ante-dates Dr. De-Young's (described in the NEWS of September 16) by six months. At the same time, I have little doubt that others have had virtually the same splint made long before either of us. So far as I am aware, however, no such splint has been described before, and certainly none is in common use. The chief defect of the Stromeier splint—its limited flexion—and also the ill-effects of the pressure at the joint, are both remedied by either form of splint.

Very truly yours,

W. W. KEEN, M.D.

PHILADELPHIA, September 18, 1882.

NEWS ITEMS.

TREATMENT OF YELLOW FEVER.—From the Secretary of the National Board of Health, we have received the following for publication: The United States Consul at Maricao (Mr. Plumacher), in a recent communication to the State Department, enclosed the translation of an extract from a Venezuelan journal, *The Opinion Nacional*, of July 31, 1882, concerning the treatment of yellow fever, by Dr. Serafia Sabucedo Varela, of Havana, Cuba. The extract was referred by Mr. Hunter, Second Assistant Secretary of State, to the National Board of Health, and was by it directed to be published. The translation is as follows:

"REMEDY FOR YELLOW FEVER.—The Havana newspapers which we have received to-day contain the following remarks, accompanied with high recommendations. Yellow Fever. The writer of these lines, doctor of medicine, certifies that since the 24th of June, of the present year, he has used as a remedy against yellow fever, doses of salicylate of sodium and carbolate of sodium, administered in spoonfuls, which remedies have been attended with the happiest results in 15 cases of this deadly disease.

"Dr. Sabucedo does not warrant in any way that these remedies will be always successful, since a number of observations are necessary to determine the truth of such a transcendental fact for afflicted humanity, and he also rejects energetically every idea of charlatanism or speculation, desiring only to call the attention of his worthy and instructed colleagues, in order that the field of observation may be extended as much as possible, for the purpose of demonstrating by facts, whether or not these remedies offer a veritable specific against such a formidable enemy. The curative system is as follows:

"Before the lapse of 48 hours from the first symptoms, administer rapidly an emetic and whatever purgative.

"After these have operated, give, without loss of time, the following formulas:

"No. 1.—Salicylate of sodium, . . . 4 grammes.
Water, . . . 100 "
"No. 2.—Carbolate of sodium, . . . 1 gramme.
Water, . . . 11 grammes.

"Commence to use these formulas as soon as the purge operates, beginning with a spoonful of No. 1, then wrap the patient, and in one hour administer a spoonful of No. 2, thus administering every hour until both formulas are exhausted.

"The alarming phase will then have disappeared; the patient perspires and on the second day the fever descends to a less grade, and there is no longer danger, the patient having the assurance that he is saved.

"With this treatment it is very rare to meet with vomit, with albuminuria, or retention of urine, the symptoms limiting themselves to bleeding at the gums and nose, the blood being bright and healthy. The urine is clear and slightly yellow, and occasionally green, without precipitating, after the fourth day.

"It can be said that serious yellow fever transforms itself, by this simple treatment, into a mild or abortive yellow fever, and no patient has as yet died among those treated on this plan.

"(Signed) DR. SERAFIA SABUCEDO VARELA."

"HAVANA, July 18, 1882."

YELLOW FEVER.—The yellow fever at Pensacola has spread rapidly during the past week, the total number of cases since the presence of the disease was acknowledged amounting to 217 on the 18th inst.—29 deaths having occurred in the same time. Up to September 12th, there were 114 cases and 19 deaths.

Dates.	Cases.	Deaths.
September 13th,	19	3
" 14th,	11	2
" 15th,	19	2
" 16th and 17th,	27	2
" 18th,	27	1
Total,	217	29

Not long since, the reports from the city indicated that the shipping was free from the disease, but on the 17th an Italian bark, the "Galileo," from Pensacola, was telegraphed as passing between the capes bound for Hampton Roads, with four persons on board dead from yellow fever. The vessel was taken to the quarantine barge, near Craney's Point, at the mouth of the Elizabeth River.

The estimates of the City Board of Health, forwarded for the approval of the National Board, called for an expenditure of two hundred dollars a day, of which fifty dollars daily were required for disinfectants. The National Board of Health allowed one hundred and fifty dollars daily for nurses and inspectors, and ordered disinfectants remaining on hand from the epidemic of 1879 to be forwarded from Memphis. There is great difficulty experienced in obtaining nurses for the sick. The disease has occurred mostly among those who are unable to pay the charge of five dollars a day for nursing, and this item constitutes a heavy draft on the funds of the health authorities. No effort has been made by the local board to establish hospitals, although the bills for nursing would thereby be considerably reduced. It is certain now that Pensacola will have to suffer until the thermometer falls, or until, as in Brownsville, all the susceptible persons have suffered.

The Spanish bark "Saleta," in which the Pensacola fever is said by some to have originated, and which was towed to sea on August 10th, has been heard from at Havana. Dr. D. M. Burgess visited her there and found that the two men who were sick at the time the vessel was sent from Pensacola, died on the voyage,

and that none of the other persons on board sickened with the disease; but inasmuch as some of them had certainly suffered from fever in former years, while the history of the others rendered their susceptibility doubtful, their escape cannot be used as an argument that the disease on board was not yellow fever.

In Texas the disease has not spread beyond the line guarded by the Marine-Hospital Service, but it has extended up the river from Matamoras, on the Mexican side, to several towns, as Reynosa and Mier. Guards have been placed opposite these points to prevent its introduction into the Texan settlements.

On September 5th, a case of fever occurred in New Orleans which gave rise to some anxiety, as it appeared in the locality which is acknowledged as having been recently infected. It was ultimately pronounced by the State Board as one of bilious remittent.

While Louisiana is quarantining against Pensacola and Brownsville, her neighbors manifest their fear of infection from New Orleans by demanding the inspection certificate of the National Board of Health on all freights coming from that city by river or rail. On September 11, Governor Roberts, of Texas, approved "regulations" drawn up by Dr. Swearingen, Health Officer of the State, for the transfer and disinfection of freight passing through the disinfecting warehouse near the Sabine River, during the existence of quarantine against New Orleans. On the 6th instant the State Board of Mississippi required the extension of the inspection service to passengers as well as freight.

As there was no yellow fever in the city at the time, the Louisiana Board and New Orleans papers charged the National and Mississippi Boards with conspiring to cast odium on the city, injure its trade, and annoy the travelling public. This drew from the latter Board at its meeting, on the 12th inst., a resolution, in which it declared and proclaimed its full and entire responsibility for any and all steps taken heretofore in establishing the system of inspection now in force against New Orleans. It is to be hoped that the season will pass without giving the Mississippi Board occasion to congratulate itself on the wisdom of a precaution which places the guards in position to be ready for an emergency which may occur at any moment.

The following summary of the progress of the yellow fever is reported by the Surgeon-General of the Marine-Hospital Service, for the week ending September 16, 1882, at

BROWNSVILLE, TEXAS.

Dates.	Cases.	Deaths.
September 10th,	58	0
" 11th,	47	1
" 12th,	31	3
" 13th,	32	0
" 14th,	24	0
" 15th,	18	2
" 16th,	22	0
Total,	232	6
Previously reported, . .	1,539	88
Total, to include Sept. 16th,	1,771	94

PENSACOLA, FLORIDA.

Dates.	Cases.	Deaths.
August 28th (first report), . .	9	1
" 29th,	2	1
" 30th,	3	0
" 31st,	4	0
September 1st,	1	2
" 2d,	0	1
" 3d,	0	0
" 4th,	1	2

September 5th,	1	0
" 6th,	0	1
" 7th,	13	0
" 8th,	12	2
" 9th,	16	2
" 10th,	10	2
" 11th,	20	3
" 12th,	22	2
" 13th,	19	3
" 14th,	11	3
" 15th,	19	2

Total during epidemic, . . 163 27

CHOLERA IN JAPAN.—Recent advices from Japan give the number of cases of cholera in Yokohama, from August 10th to 21st, as 608, with 357 deaths. The total figures from the beginning of the epidemic amount to 2,801 cases and 1,719 deaths, a mortality of over 61 per cent. The foreign residents continue free from the disease. Other parts of the Empire are becoming infected. Osaka, one of the largest cities, has been declared an infected port.

CHOLERA IN THE PHILIPPINES.—Official dispatches have been received at Madrid from the Philippine Islands, confirming the increase of cholera, and causing great alarm. Hitherto only natives had been attacked, but the deaths of several Europeans are now reported. Four thousand natives have died from cholera in a single province. The epidemic is, however, believed to be now decreasing. The government has adopted most stringent measures regarding vessels arriving at Spanish ports from the East.—*British Med. Journal*, September 2, 1882.

TUBERCLES AS MANIFESTED IN THE LARYNX.—At the conversational meeting of the Pathological Society of Philadelphia, to be held in the Hall of the College of Physicians, on Thursday evening next, Dr. J. SOLIS COHEN will read a paper entitled "Tubercles as Manifested in the Larynx." Dr. Morell Mackenzie, of London, we understand, is expected to take part in the discussion. The profession is invited to be present.

RESIGNATION OF PROF. PIRRIE, OF THE UNIVERSITY OF ABERDEEN.—Dr. Pirrie, the venerable Professor of Surgery at Aberdeen, has resigned his chair on the ground of advanced years and declining health. At the meeting of the University Court held last week permission was given, and, after the members had individually expressed their high sense of the distinguished services of Dr. Pirrie, it was agreed to recommend that an increase of the usual retiring allowance should be granted. Dr. Pirrie has served the University in the capacity of Professor for the long period of fifty-two years; for nine years as Lecturer on Anatomy and Physiology, and since then in the now vacated chair.—*Lancet*, September 2, 1882.

THE DUKE OF ALBANY.—According to the *Lancet*, his Royal Highness suffers from constitutional weakness, with liability to hemorrhage—hæmatophilia.

DARWIN'S STATUE.—Twelve thousand five hundred dollars have been already collected for the marble statue of Darwin, to be erected in the British Museum.

PERSONAL.—The American Rifle Team, which participated in the late international match at Creedmoor, had for one of its members the well-known pathologist, Dr. E. O. Shakespeare, of Philadelphia.

DR. GEORGE CAPRON, eighty years old, and the oldest practising physician in Providence, received a shock of apoplexy Sunday, and is reported to be dying.

TO DISGUISE THE TASTE OF QUINIA.—MR. J. K. LILLY proposes the syrup of yerba santa for the above purpose. Very little seems to be known about this substance. The purest state in which the writer has as yet been able to obtain it is in the form of an amber, mucilaginous mass, soluble in water and alcohol, insoluble in ether, benzine, and chloroform, precipitated by strong acids, and re-dissolved by alkalies. It may be prepared by mixing a fluid extract, made with a menstruum of not less than 75.9° alcohol, with an excess of water, boiling to drive off alcohol, shaking with finely powdered pumice, allowed to stand, then filtering and the filtrate evaporated to the consistency of an extract. The following formula is proposed for the preparation of a syrup, which has proved to be very satisfactory:

Fluid Extract Yerba Santa, . . .	4 parts.
Water,	8 "
Powdered Pumice,	1 "
Granulated Sugar,	14 "

Mix the fluid extract with the water, evaporate to seven parts, shake with pumice, allow to stand, decant, add sufficient water to preserve measure, then with heat dissolve the sugar. The addition of fluid extract of licorice in the proportion of half a drachm to the ounce of syrup, or of aromatics, adds somewhat to the elegance of the preparation. When quinia or other bitter substances are suspended in this syrup their taste is completely masked. It is far superior to the licorice preparations used for the same purpose, is pleasant and agreeable, and is easily prepared.—*Chicago Med. Rev.*, August 15, 1882.

BELL-RINGING A NUISANCE.—The Supreme Judicial Court for Plymouth County, Massachusetts, has just enjoined Francis A. Sawyer and others, from ringing a bell upon their woollen mill in Plymouth. The case came to the full court on appeal by the defendants from a decree entered by a single justice, enjoining them from ringing the bell earlier than half-past six o'clock in the morning. The plaintiffs for many years have owned and occupied dwelling-houses situated, one about 1000 feet and the other about 300 feet from the defendant's woollen mill. The defendants commenced to run their mill, which had been previously occupied by other parties, in December, 1879, and about January 1, 1880, placed the bell upon the mill and caused it to be rung every working day at five and twice between six and a half o'clock in the morning and at other times during the day, except that the five o'clock bell was discontinued during the summer. The plaintiffs alleged that the bell as rung was a private nuisance to them and injured their property and disturbed the quiet and comfort of their homes; that it was not necessary for any purpose of trade or manufacture; that it was unnecessarily large and rung at unreasonable hours and unreasonably long. The defendants in their answer denied that the bell was a nuisance to the plaintiffs, and alleged that it was used by the defendants to summon the operatives in their mill to work; that it was necessary and customary to adopt some method to summon operatives in such a manufactory to their work; that the bell was of suitable size, rung at suitable hours, and in a proper manner for that purpose. Two questions were presented for the consideration of the court: First, whether the plaintiffs proved that the ringing of the bell was a nuisance to them; and second, whether it was such a nuisance that the court would interfere to restrain it by injunction. The court has now decided that the evidence seemed fully to sustain the finding of the judge who heard the case—that the ringing of the bell was a nuisance to the plaintiffs, and further, that the plaintiffs were entitled to an injunc-

tion. The decree of the single justice was accordingly affirmed.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending September 9, 1882, indicate that dysentery and typho-malarial fever have considerably increased, that erysipelas and influenza have increased, and that diarrhoea and tonsillitis have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 9, and since, at 17 places, scarlet fever at 11 places, measles at 4 places, and smallpox at 3 places, as follows: in Berlin Township, Ionia Co., September 8; at Grand Rapids (last case discharged September 12); at Ionia, September 18.

For the week ending September 9, the sanitary inspector reports 3 cases of whooping-cough among immigrants arriving at Detroit.

OBITUARY.—A cable dispatch from London announces the death, on September 15th, of SIR JAMES ALDERSON, the eminent physician. He was the son of Dr. John Alderson, of Hull, and was born there in 1800. He graduated at Cambridge as sixth wrangler in 1822, and became a fellow of Pembroke College. After a course of studies in Oxford he took his degree in 1829 and achieved success as a practitioner in London. He published a treatise on *Diseases of the Stomach* in 1847, and delivered the Lumleian course of medical lectures in 1853-4. Soon after he was made fellow of the Royal Society, and was president of the Royal College of Physicians four successive years, from 1867 to 1870. He was appointed physician extraordinary to the royal household, and was knighted in 1869. The degree of doctor of civil law was conferred on him by the University of Oxford in 1870.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 11 TO SEPTEMBER 18, 1882.

BACHE, DALLAS, *Surgeon*.—Informed by Adjutant-General of acceptance of his certificate of disability of August 31, 1882, on sick leave, from September 1 to 30, 1882.

MADDOX, T. J. C., *Assistant Surgeon*.—To proceed from Fort Clark, Texas, via San Antonio and Laredo, to Fort Brown, Texas, for duty.—S. O. 96, *Department of Texas*, September 8, 1882.

WRIGHT, J. P., *Surgeon*.—Granted leave of absence for one month, with permission to apply for an extension of one month, on surgeon's certificate of disability.—S. O. 181, *Department of Missouri*, September 8, 1882.

HORTON, S. M., *Major and Surgeon*.—Granted one month's leave on surgeon's certificate of disability.—S. O. 96, *Department of the Platte*, September 11, 1882.

WRIGHT, J. P., *Surgeon*.—Granted one month's leave of absence, with permission to apply for extension of one month, on surgeon's certificate of disability.—S. O. 181, *Department of the Missouri*, September 8, 1882.

SMITH, ANDREW K., *Major and Surgeon*.—Leave of absence on surgeon's certificate of disability granted in special orders No. 131, August 22, 1882, *Department of Arizona*, extended two months, on surgeon's certificate of disability.—S. O. 214, *A. G. O.*, September 14, 1882.

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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